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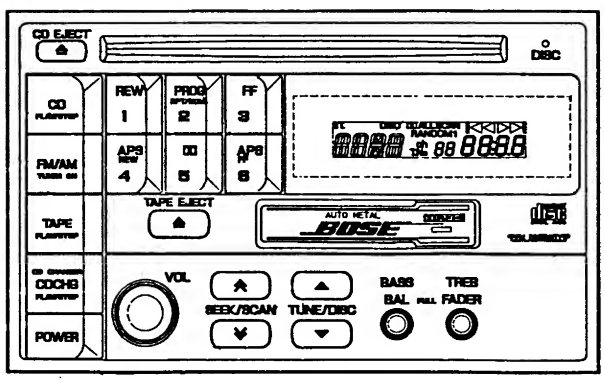
clarion Service Manual

Published by Service Information Section



NISSAN Automobile Genuine AM/FM Cassette Stereo CD Deck

Model PN-2083D
(Genuine No. 28188 60U10
ID No. CN503)

Model PP-2083I
(Genuine No. 28188 18Y00
ID No. CN513)

■SPECIFICATIONS:

[RADIO SECTION]

Circuit system:	Superheterodyne
Tuning system:	Electronic tuning
Receive range:	AM 530kHz to 1,710kHz
	FM 87.75MHz to 107.9MHz
Intermediate frequency:	AM 450kHz
	FM 10.7MHz
Quieting sensitivity:	AM Less than 32dB (at 20dB S/N)
	FM Less than 11dB (at 30dB S/N)
Separation:	FM More than 20dB
Auto tuning stop sensitivity:	
	AM 32±6dB
	FM 25^{+6}_{-3}dB

[TAPE SECTION]

Reproduction system:	4 track, 2 channel, stereo cassette deck
Tape speed:	4.76cm/sec. (1-7/8"/sec.)
Wow & flutter:	Less than 0.15% (W.R.M.S.)
Separation:	More than 35dB
Crosstalk:	More than 45dB
S/N ratio:	Normal tape (120μs) 45dB/55dB (DOLBY ON)
	METAL tape (70μs) 47dB/57dB (DOLBY ON)
FF, REW time:	Less than 110sec. (C-60)

[CD SECTION]

Disc:	12cm/8cm
Separation:	More than 40dB (30kHz LPF)
S/N ratio:	More than 80dB
Distortion:	Less than 0.2%
Frequency characteristics:	
	0±3dB (17Hz to 20kHz)

[SYNTHESIS]

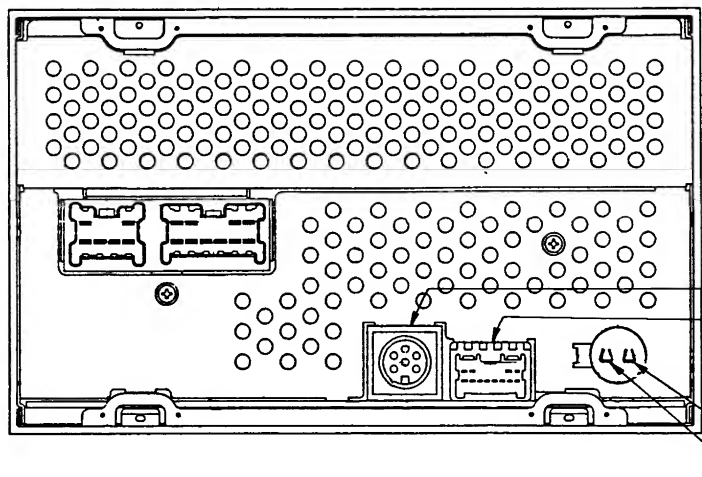
Load impedance:	300Ω×4
Output level:	AM 1.1±0.5V (at VOL. max.)
	FM $0.75^{+0.5}_{-0.3}$V (at VOL. max.)
	TAPE $2.4^{+1.0}_{-0.7}$V (at VOL. max.)
	CD $6^{+0.5}_{-1.5}$V (at VOL. max.)
	AUX $6^{+0.5}_{-1.5}$V (at VOL. max.)
Power supply voltage:	DC 14.4V Negative ground
Current consumption:	Less than 3A (at max. output)
Dimensions:	Width 180mm
	Height 108mm
	Depth 160mm
Weight:	2.4kg

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ⊡⊡ are trademarks of Dolby Laboratories Licensing Corporation.

■COMPONENT:

- **PN-2083D-A/PP-2083I-A**
  Main unit 1

■REAR VIEW & CONNECTORS:



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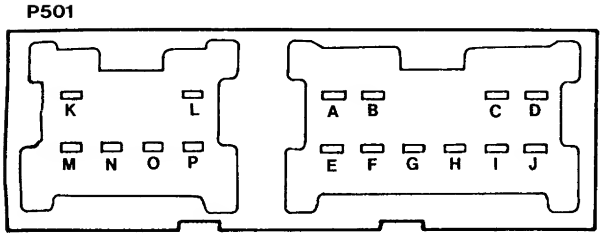

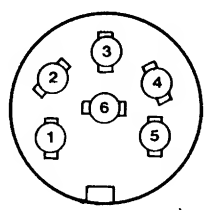

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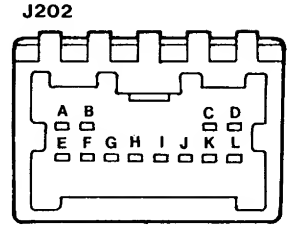


A	FRONT LEFT (+) OUTPUT
B	FRONT RIGHT (+) OUTPUT
C	ILLUMINATION
D	Acc
E	FRONT LEFT (−) OUTPUT
F	FRONT RIGHT (−) OUTPUT
G	ANTENNA SIGNAL
H	BACK UP
I	ILLUMI. CONTROL
J	GND
K	REAR AMP. TURN-ON SIGNAL
L	REAR RIGHT (+) OUTPUT
M	GND
N	REAR LEFT (−) OUTPUT
O	REAR LEFT (+) OUTPUT
P	REAR RIGHT (−) OUTPUT

1	TEL-ON SIGNAL INPUT
2	Rch INPUT (+)
3	
4	GND
5	Rch INPUT (−)
6	

A	Lch INPUT (+)
B	Rch INPUT (+)
C	COMBI→CD (TXD)
D	COMBI-ON SIGNAL OUTPUT
E	Lch INPUT (−)
F	Rch INPUT (−)
G	GND
H	GND
I	
J	SLAVE-IC REQUEST
K	CD→COMBI (RXD)
L	AUX-ON SIGNAL INPUT

■OPERATION MODE CHART:

		STATE \ OPERATION	"POWER"	"AM/FM"	"TAPE"	"CD"	"CD CHG"	1 REW	2 PROG	3 FF	4 REW APS	5 DOLBY	6 FF APS	"▲" PUSH LESS 1.5S	"▲" PUSH MORE 1.5S	"▼" PUSH LESS 1.5S	"▼" PUSH MORE 1.5S	"▲" PUSH LESS 0.3S	"▲" PUSH MORE 0.5S	"▼" PUSH LESS 0.3S	"▼" PUSH MORE 0.5S	TAPE EJECT	CD EJECT	ACC OFF	ACC ON	TAPE END	CD END	TAPE TOP	AUX ON
ACC ON	NO MAGAZINE CD DISC OUT PACK OUT	ALL OFF (INITIALIZE)	RADIO ON	RADIO ON	×	×	•8	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×				AMP SIG ON
		RADIO ON	ALL OFF	BAND CHANGE	×	×	↑	•1	•1	•1	•1	•1	•1	SEEK UP	SCAN UP	SEEK DOWN	SCAN DOWN	1 STEP UP	DURING OPERATION STEP UP	1 STEP DOWN	DURING OPERATION STEP DOWN	×	×	RADIO STAND BY	LAST MEMORY				RADIO OFF AMP SIG ON
		RADIO ON SEEK UP	↑	↑	×	×		PRESET 1	PRESET 2	PRESET 3	PRESET 4	PRESET 5	PRESET 6	LAST MEMORY	LAST MEMORY	LAST MEMORY	LAST MEMORY	STOP	↑	STOP	↑	×	×	↑	↑				↑
		RADIO ON SEEK DOWN			×	×		↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑		↑		×	×						
		RADIO ON SCAN UP			×	×		↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑		↑		×	×						
		RADIO ON SCAN DOWN			×	×		↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑		↑		×	×						
		RADIO ON SCAN WAIT			×	×		•1	•1	•1	•1	•1	•1	SCAN STOP	SCAN STOP	SCAN STOP	SCAN STOP	SCAN STOP 1 STEP UP		SCAN STOP 1 STEP DOWN		×	×						
		PACK LOADING	LOADING → ALL OFF	LOADING A/F LAST MEMORY	LOADING → ALL OFF	×		LOADING → REW	LOADING → PROG	LOADING → FF	LOADING → REW APS	ON/OFF	LOADING → FF APS	×	×	×	×	×	×	×	×	LOADING → EJECT	×	LOADING → STAND BY	CS PLAY				LOADING → AMP SIG ON
		DISC LOADING	↑	↑	×	LOADING → ALL OFF		×	OFF → ALL T. RANDOM → 1 MUSIC	×	×	×	×	×	×	×	×	×	×	×	×	×	LOADING → EJECT	↑	CD PLAY				↑
		AUX ON SIG IN PUT	AUX OFF A/F LAST MEMORY	AUX OFF A/F LAST MEMORY	×	×		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	AUX STAND BY	AUX ON				
	MAGAZINE IN CD DISC IN PACK IN	ALL OFF (PACK/CD/CD CHG STOP)	COMBI LAST MEMORY	A/F LAST MEMORY	CS PLAY	CD PLAY	CD-A/C PLAY	×	×	×	×	×	×	×	×	×	×	×	×	×	×	EJECT	EJECT	×	×				AMP SIG ON
		RADIO ON	ALL OFF	BAND CHANGE	↑	↑	↑	•1	•1	•1	•1	•1	•1	SEEK UP	SCAN UP	SEEK DOWN	SCAN DOWN	1 STEP UP	DURING OPERATION STEP UP	1 STEP DOWN	DURING OPERATION STEP DOWN	↑	↑	RADIO STAND BY	LAST MEMORY				RADIO OFF AMP SIG ON
		RADIO ON SEEK UP	↑	↑				PRESET 1	PRESET 2	PRESET 3	PRESET 4	PRESET 5	PRESET 6	LAST MEMORY	LAST MEMORY	LAST MEMORY	LAST MEMORY	STOP	↑	STOP	↑			↑	↑				↑
		RADIO ON SEEK DOWN						↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑		↑									
		RADIO ON SCAN UP						↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑		↑									
		RADIO ON SCAN DOWN						↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑		↑									
		RADIO ON SCAN WAIT						•1	•1	•1	•1	•1	•1	SCAN STOP	SCAN STOP	SCAN STOP	SCAN STOP	SCAN STOP 1 STEP UP		SCAN STOP 1 STEP DOWN									
		AUX ON SIG IN PUT	AUX OFF COMBI LAST MODE	AUX OFF A/F LAST MEMORY				×	×	×	×	×	×	×	×	×	×	×	×	×	×			AUX STAND BY	AUX ON				
		CD PLAY (REPEAT / MODE OFF) PACK EJECT	EJECT → ALL OFF	A/F LAST MEMORY	×	ALL OFF		DURING OPERATION REW •4	OFF → ALL	DURING OPERATION FF •5	REW APS	×	FF APS	×	×	×	×	×	×	×	×	×		CD STAND BY	CD PLAY		CD STOP		CD STOP AMP SIG ON
		PACK PLAY CD EJECT	↑	↑	ALL OFF	×		REW	REVERSING → PLAY	FF	↑	ON/OFF	↑	×	×	×	×	×	×	×	×	EJECT	×	CS STAND BY	CS PLAY	REVERSING → PLAY			CS STOP AMP SIG ON
		PACK PLAY	ALL OFF	A/F LAST MEMORY	ALL OFF	CD PLAY	CD-A/C PLAY		↑	↑		↑		×	×	×	×	×	×	×	×	↑	EJECT	↑	↑	↑			↑
		PACK FF	↑	•2	PLAY	↑ •2	↑ •2		PLAY	PLAY				×	×	×	×	×	×	×	×		↑						•2
		PACK REW	↑	•2	↑	•2	•2	PLAY	↑	FF				×	×	×	×	×	×	×	×							PLAY	•2
		PACK FF APS		•3	↑	•3	•3	REW		↑			COUNT UP	×	×	×	×	×	×	×	×	↑				REVERSING → PLAY			•3
		PACK REW APS		•3		•3	•3	↑			COUNT UP		FF APS	×	×	×	×	×	×	×	×							PLAY	•3
		DURING REVERSING AFTER REVERSING	REVERSING → ALL OFF	REVER-SING	REVERSING → ALL OFF	REVERSING → CD PLAY	REVERSING → CD-A/C PLAY	REVERSING → REW	REVERSING → PLAY	REVERSING → FF	REVERAING → REW APS		REVERSING → FF APS	×	×	×	×	×	×	×	×	REVERSING → EJECT		REVER-SING					REVERSING STOP
		CD PLAY REPEAT OFF	ALL OFF		CS PLAY	ALL OFF	CD-A/C PLAY	DURING OPERATION REW •4	OFF → ALL	DURING OPERATION FF •6	REW APS	×	FF APS	×	×	×	×	×	×	×	×	EJECT		CD STAND BY	CD PLAY		CD STOP		CD STOP AMP SIG ON
		CD PLAY ALL REPEAT	↑		↑	↑	↑	↑ •4	ALL → 1	↑ •6	↑	×	↑	×	×	×	×	×	×	×	×	↑		↑	↑		PLAY		↑
		CD PLAY 1 PROGRAM REPEAT						•5	1 → RANDOM	•7		×		×	×	×	×	×	×	×	×						TOP OF LAST MUSIC		
		CD PLAY RANDOM REPEAT						•5	RANDOM → OFF	•9	• 5	×	RANDOM FF APS	×	×	×	×	×	×	×	×						RANDOM PLAY		
		CD FF APS						×	OFF → ALL T. RANDOM → 1 MUSIC	×	COUNT DOWN	×	COUNT UP	×	×	×	×	×	×	×	×								
		CD REW APS						×	↑	×	↑	×	↑	×	×	×	×	×	×	×	×								
		DISC END STAND BY				PLAY		×	×	×	×	×	×	×	×	×	×	×	×	×	×				DISC END STAND BY				
		CD-A/C PLAY ALL DISC REPEAT		A/F LAST MEMORY		CD PLAY	ALL OFF	DURING OPERATION REW •4	ALL DISC → 1 DISC	DURING OPERATION FF •6	REW APS	×	FF APS	×	×	×	×	×	×	×	×	EJECT	EJECT	CD-A/C STAND BY	CD-A/C PLAY		NEXT DISC PLAY		CD-A/C STOP AMP ON
		CD-A/C PLAY 1 DISC REPEAT		↑		↑	↑	↑ •4	1 DISC → 1 PROGRAM	↑ •6	↑	×	↑	×	×	×	×	1 DISC UP	1 DISC UP	1 DISC DOWN	1 DISC DOWN	↑	↑	↑	↑		PLAY		↑
		CD-A/C PLAY 1 PROGRAM REPEAT						•5	1 PROGRAM → RANDOM	•7		×		×	×	×	×	↑	↑	↑	↑						TOP OF LAST MUSIC		
		CD-A/C PLAY RANDOM REPEAT						•5	RANDOM → ALL DISC	•9	• 5	×	RANDOM FF APS	×	×	×	×	•10	•10	•10	•10						RANDOM PLAY		
		CD-A/C FF APS						×	CHANGE	×	COUNT DOWN	×	COUNT UP	×	×	×	×												
		CD-A/C REW APS						×	↑	×	↑	×	↑	×	×	×	×												

*1) PRESET KEY DEPRESS FOR LESS 1.5S → MEMORY READ
MORE THAN 1.5S → MEMORY WRITE

*2) DETECT TAPE TOP, REW → STOP
DETECT TAPE END, FF → STOP

*3) DETECT APS, REW APS, FF APS → STOP
DETECT TAPE TOP, REW APS → STOP
DETECT TAPE END, FF APS → STOP

*4) DETECT FIRST MUSIC → PLAY

*5) DETECT PRESENT MUSIC → PLAY

*6) DETECT FINAL MUSIC → PLAY FIRST MUSIC

*7) DETECT MUSIC END → PLAY MUSIC TOP

*8) CD NO DISC → AFTER 5SEC → ALL OFF

*9) DETECT MUSIC END → PLAY RANDOM MUSIC

⑦*10) RANDOM MODE OFF → ALL DISC REPEAT MODE

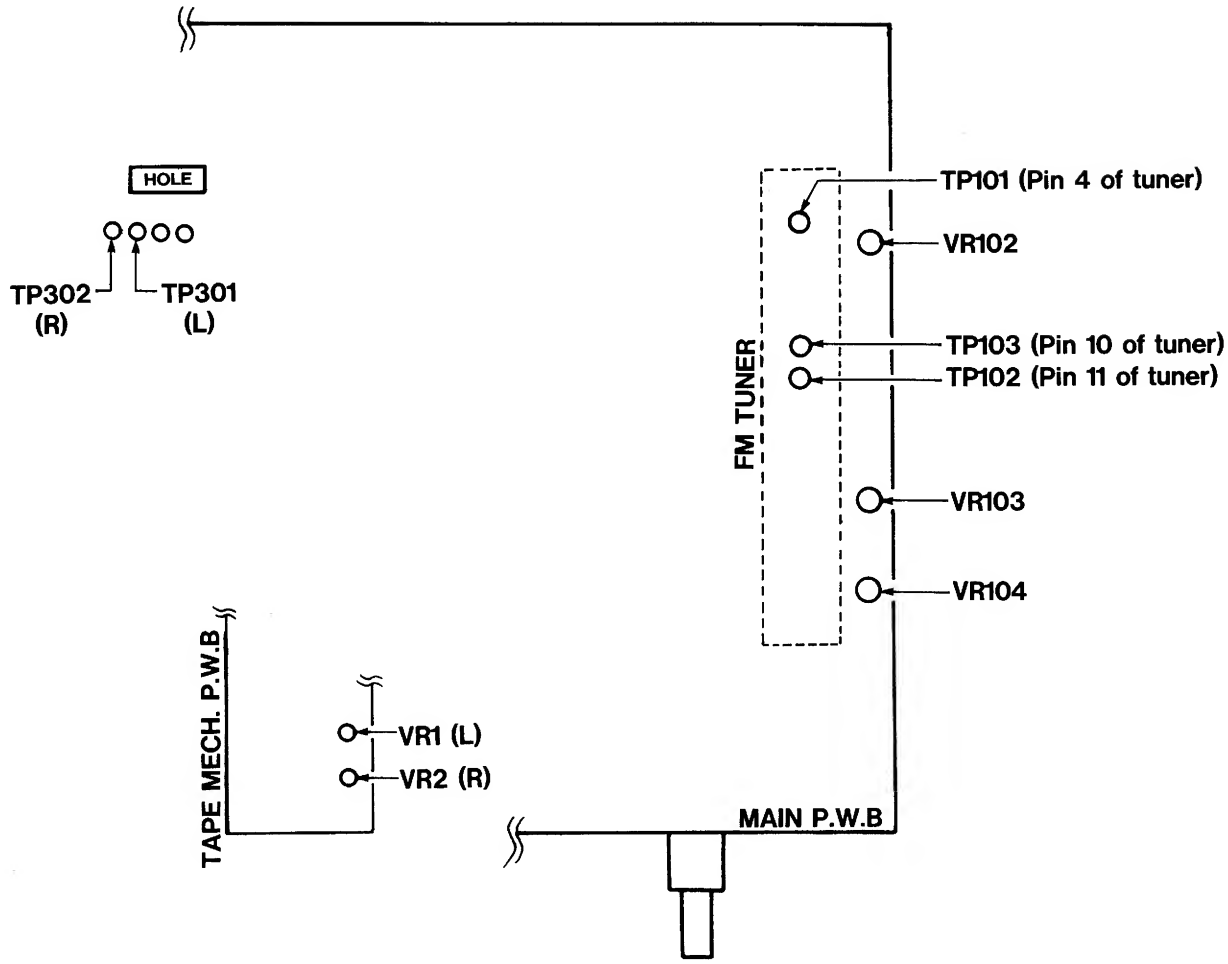
NOTE) ／ NO SITUATION

× NO CHANGE

PN-20830,PP-20831

■ADJUSTMENT:

● ADJUSTMENT POINT



Switching of diversity

- How to fix the MAIN channel
  While holding the buttons of CH1 and CH3, turn on the RADIO SW.
- How to fix the SUB channel
  While holding the buttons of CH4 and CH6, turn on the RADIO SW.
- To release the MAIN or SUB channel, turn off the RADIO SW.

● FM SECTION

Item	Adjustment	Measuring Instrument
Noise Convergence	(MAIN) 1) Input the 98.1MHz frequency at 55dB. 2) Adjust the outputs evenly to −15±3dB by VR102 when the SG output is set to −20dB. (SUB) 1) Follow the same adjustment steps as MAIN above. (VR103)	SG Milli-volt meter
Stop Sensitivity	1) Input the 98.1MHz/55dB signal (1kHz MOD). 2) Short the TP102 and TP101. 3) Adjust VR104 so that the voltage of TP103 is 1.5V±0.01V.	SG Milli-volt meter

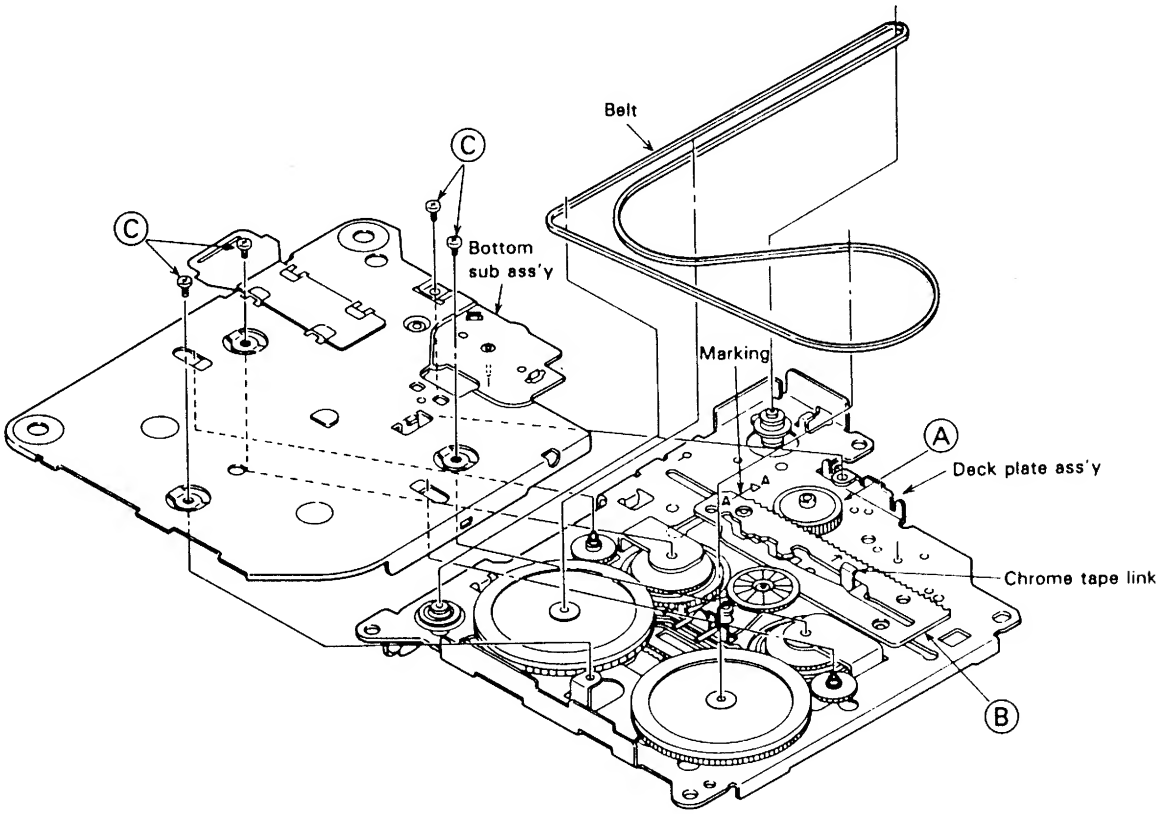
● DOLBY SECTION

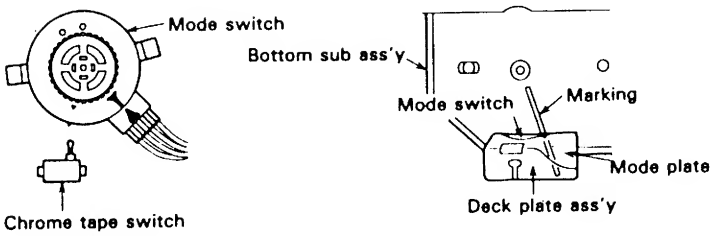
Item	Adjustment
Dolby NR	1) Insert a Dolby level test tape (400Hz−200nWb/m), connect the millivoltmeter to TP301 (L) and TP302 (R), and adjust VR1 (L) and VR2 (R) to obtain an output of 300mV±1dB. (Dolby switch: OFF)

■MECHANISM ASSEMBLING PROCEDURES:

- While rotating the power gear (A) on the deck plate ass'y, move the mode plate (B) so that the markings "A and A" are aligned.
- Align the marking ▼ in the mode switch of the bottom sub ass'y with the marking ▲ in the switch terminal.
- Place the bottom sub ass'y in the deck plate ass'y and tighten 4 screws (C).

* While placing the bottom sub ass'y in the deck plate ass'y, confirm that the markings in the bottom sub ass'y, mode plate and deck plate ass'y, and pin in the mode switch is aligned with each marking.





■PROCEDURE FOR REPAIR AND ADJUSTMENT:

1) Cautions

- This unit, as operates on single power supply, operates on the basis of various mid-point potential (such as, 2.5V and 4.7V mid points).
- When observing the operating state from the reference by an oscilloscope, connect CH1 GND to the mid point for measurement. The other probe GND should not be connected anywhere.
- When measuring the laser current, the misconnection of the measuring point may damage the laser (in the pick-up section).

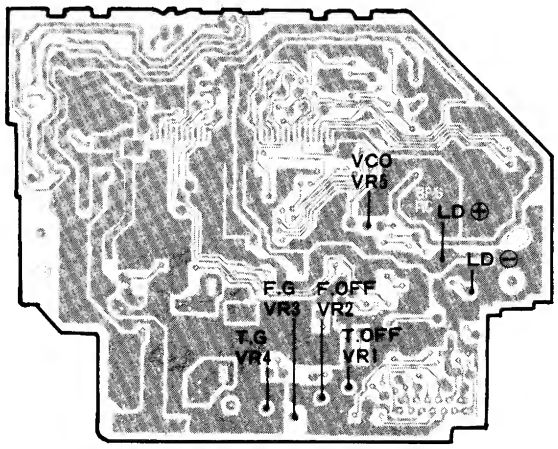
2) Test Disc

- SONY TYPE4 (YEDS18) 12cm
- ABEX MODEL TCD-783 8cm

3) Follow the precautions in handling the pick-up of special notes on page 2.

4) Adjusting order

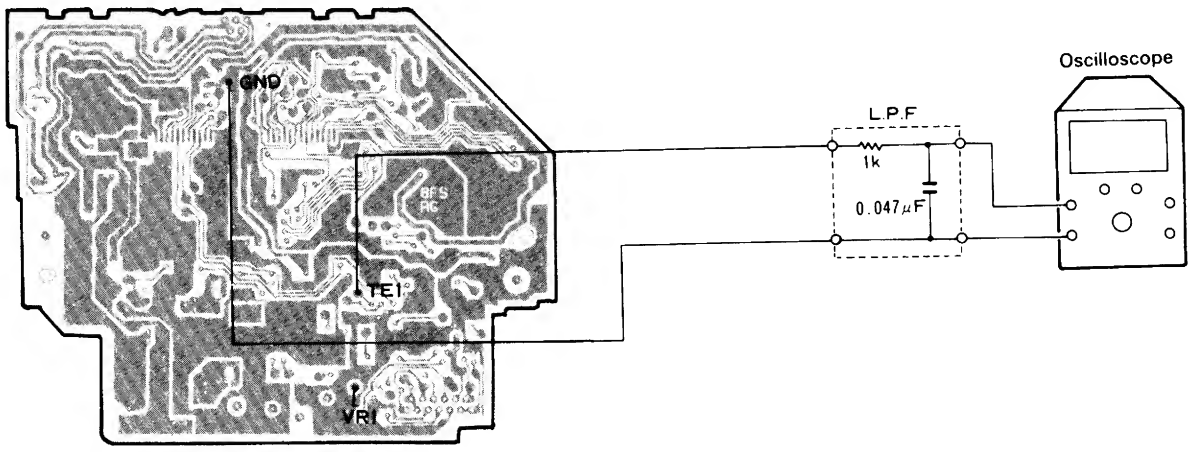
1. Tracking offset
2. Focus offset
3. Focus gain
4. Tracking gain



■Adjusting Tracking Offset

- **Purpose**
  To optimize the EF balance of the tracking servo.
- **When adjustment is incomplete**
  It takes a long time for search. The carriage runs away.
- **Measuring instrument**
  Oscilloscope
- **Measuring point**
  TP TE1
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR1

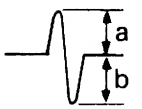
Connection diagram



Adjusting procesure

1. Make sure that the power is turned off and connect the measuring instrument as indicated in the above diagram.
2. Play back the first music of SONY TYPE4.
3. Perform the manual search and check the state of TR Jump (track jump) by an oscilloscope.

Adjust the tracking offset adjusting volume (VR1) so that the waveform may become symmetrical in both forward and reverse modes.

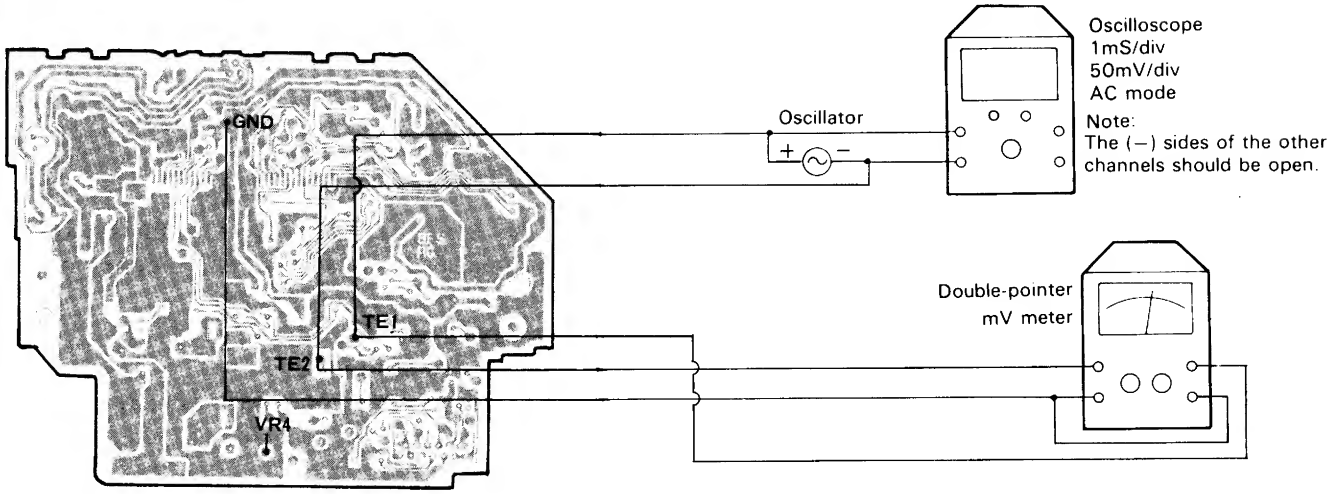


Adjust so as to be a ≒ b.

■Adjusting the Tracking Servo Loop Gain

- **Purpose**
  To adjust the tracking servo loop gain to be optimum value.
- **When adjustment is incomplete**
  The playability and vibration proof are deteriorated.
- **Measuring instrument**
  Oscillator, double-pointer mV meter
- **Measuring point**
  SERTR1, SERTR2, TP, TE1, TE2
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR4

Connection diagram



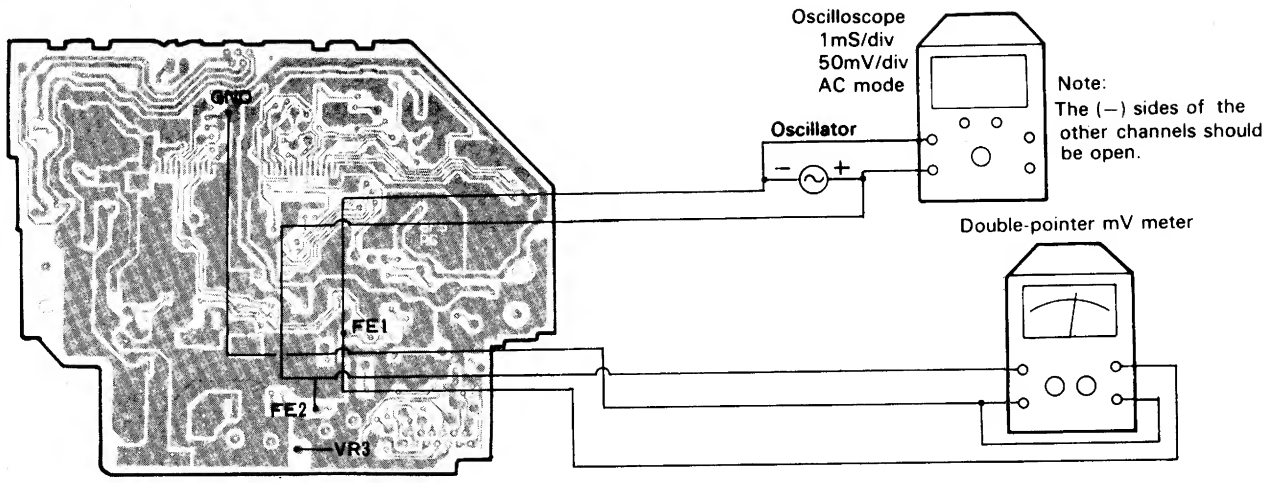
Adjusting procedure

1. Preset the oscillator. Set the output amplitude with no load to be 1Vp-p (at 1kHz).
   Note: The set value of the output level varies slightly depending on the oscillator. This set value is the one when the oscillator of about 500Ω output impedance is used. Adjustment should be made under the condition in which the servo can be activated stably even after the output of the oscillator was applied, causing no mistracking. Low output impedance provides low set output.
2. Make sure that the power is turned off and connect the measuring instruments as indicated in the above diagram.
3. Play back the first music of SONY TYPE4.
4. Adjust the tracking gain adjusting volume (VR4) so that the error of the double-pointer mV meter may be not more than 0±0.5dB (under the condition in which 1kHz output is generated from the oscillator).

■Adjusting the Focus Servo Loop Gain

- **Purpose**
  To adjust the focus servo loop gain to be optimum value.
- **When adjustment is incomplete**
  The playability and vibration proof are deteriorated. S detection is apt to fail.
- **Measuring instrument**
  Oscillator, double-pointer mV meter
- **Measuring point**
  TP FE1, FE2
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR3

Connection diagram



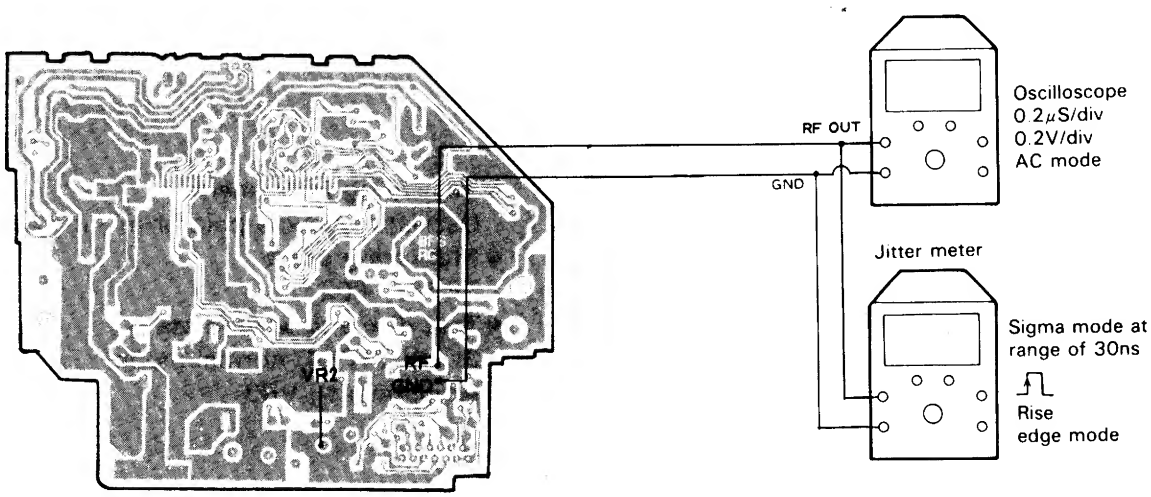
Adjusting procedure

1. Preset the oscillator. Set the output amplitude with no load to be 1Vp-p (at 1kHz).
   Note: The set value of the output level varies slightly depending on the oscillator. This set value is the one when the oscillator of about 500Ω output impedance is used. Adjustment should be made under the condition in which the servo can be activated stably even after the output of the oscillator was applied, causing no mistracking. Low output impedance provides low set output.
2. Make sure that the power is turned off and connect the measuring instruments as indicated in the above diagram.
3. Play back the first music of SONY TYPE4 in the normal mode.
4. Adjust the tracking gain adjusting volume (VR3) so that the error of the double-pointer mV meter may be not more than 0±0.5dB (under the condition in which 1kHz output is genereated from the oscillator).

■Adjusting the Focus Offset

- **Purpose**
  To adjust the focus servo bias to be optimum value.
- **When adjustment is incomplete**
  The focus is hard to be closed. Playability is deteriorated.
- **Measuring instrument**
  Oscilloscope
- **Measuring point**
  RF
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR2

Connection diagram



Adjusting procedure

1. Play back the first music in the normal mode.
2. Connect the RF OUT to the jitter meter (Meguro) and adjust the focus offset adjusting volume (VR2) so that the jitter may be optimized.

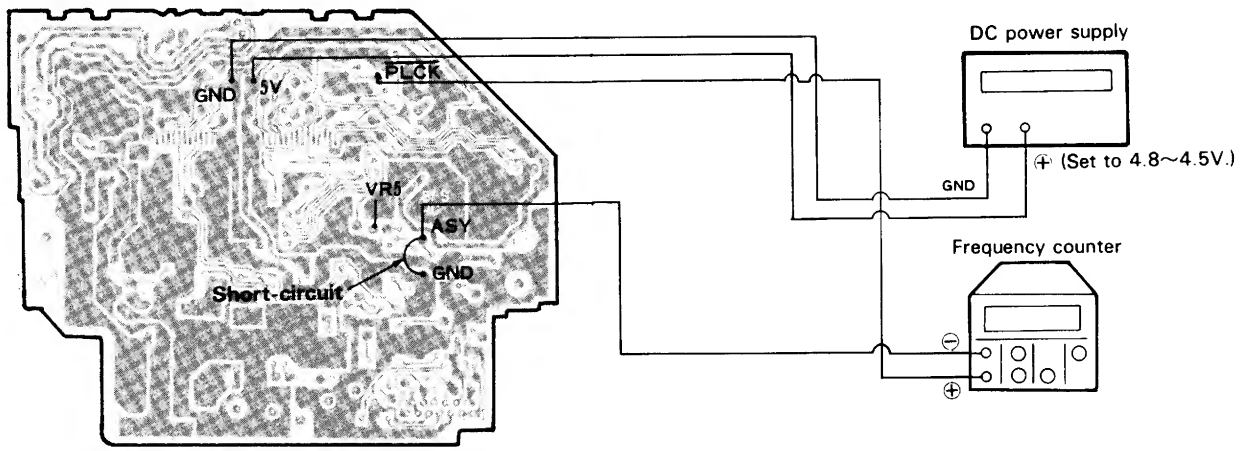
(When there is no jitter meter, observe the RF OUT based on GND by an oscilloscope and adjust VR2 so that RF may be maximized and the eye pattern may be omptimized.)

Note: Use the probe of 10 : 1 for connection to the jitter meter.

■Adjusting VCO Free-run Frequency

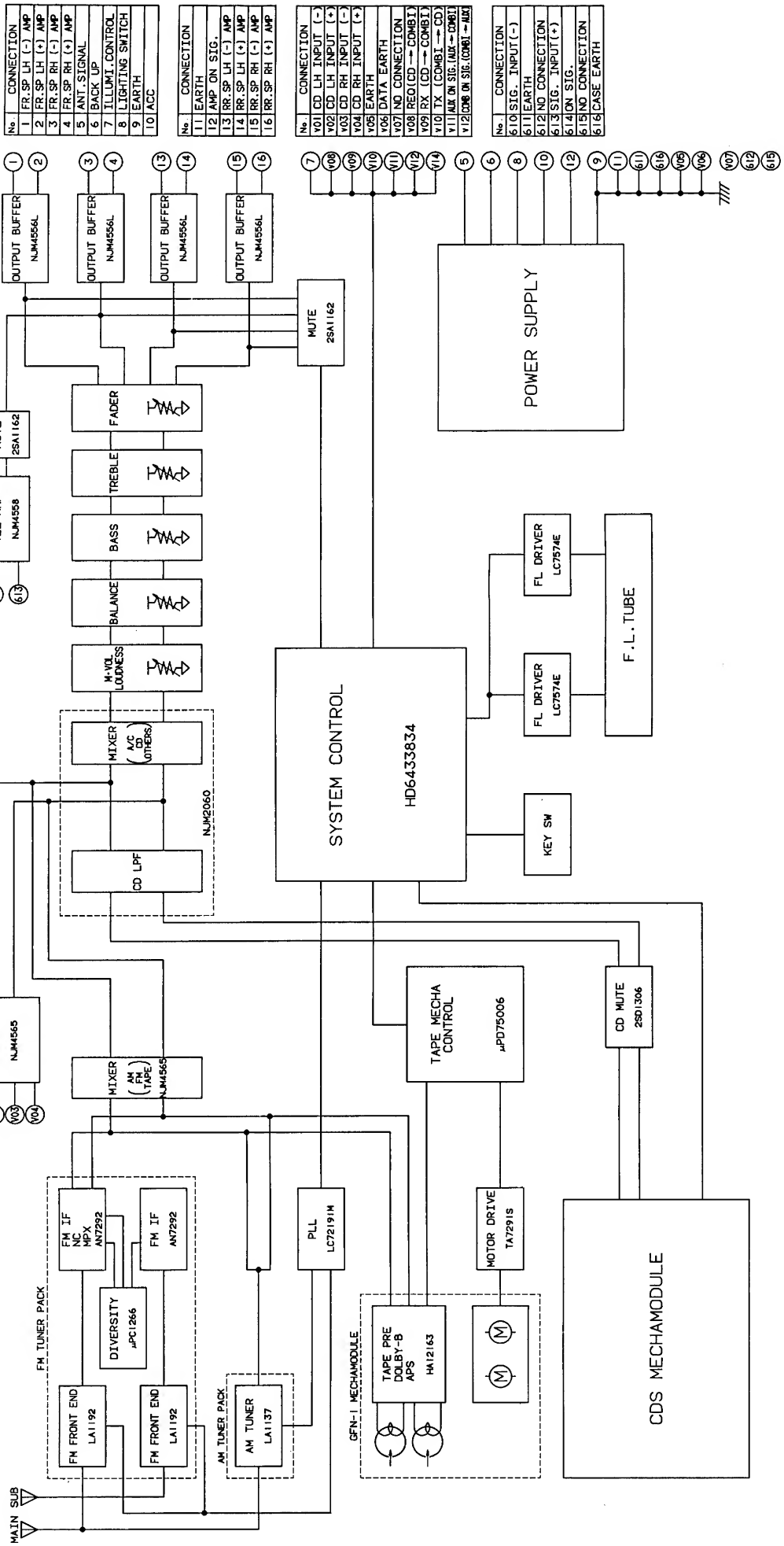
- **Purpose**
  To adjust the free-run frequency of reference clock for EFM decoder to be optimum value.
- **When adjustment is incomplete**
  Spindle lock is impossible. The sound is not emitted or breaks.
  The long access time is long. (22 music → 1 music or 1 music → 22 music by SONY TYPE4).
- **Measuring instrument**
  Frequency counter, various jigs for test mode
- **Measuring point**
  Pin 70 of $\overline{\text{PLCK}}$ CXD1167
- **Adjustment** : VR5

Connection diagram



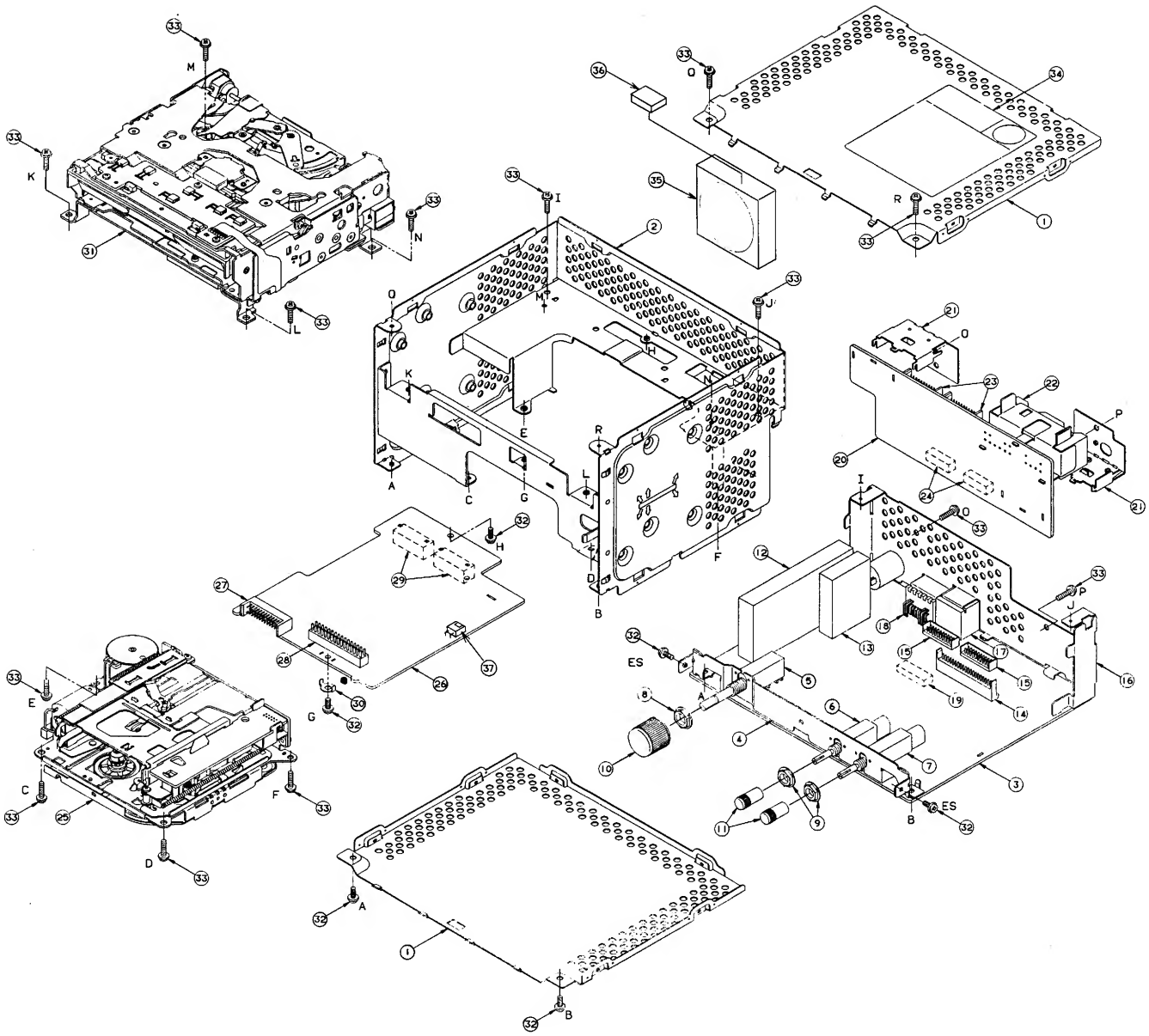
1. Remove the mechanical module from the set.
2. Short-circuit ASY to GND.
3. Connect A-Vcc and 5V to the DC power supply.
4. Turn ON the power.
5. Read the numeric value from the frequency counter.
6. Adjust to be F=4.20MHz± 10kHz.
7. Turn OFF the power.
8. Disconnect the connection.

■BLOCK DIAGRAM:



■EXPLODED VIEW • PARTS LIST:

◎Main section



NO	PART NO.	DESCRIPTION	QTY
1	310-1549-00	UPPER CASE	2
2	946-0050-00 946-0050-10	CHASSIS ASSY(PN-2083D) (PP-2083I)	1
3	039-0224-01	MAIN PWB	1
4	331-0391-00	FRONT PLATE	1
5	016-2005-00	VARIABLE-R*VOL	1
6	016-4210-00	VARIABLE-R*BASS/BAL	1
7	016-4320-00	VARIABLE-R*TREB/FAD	1
8	722-0368-00	NUT	1
9	722-0433-00	NUT	2
10	380-5317-01	KNOB	1
11	380-5312-00	KNOB	2
12	880-1725B	FM TUNER BLOCK	1
13	880-1514C	AM TUNER BLOCK	1
14	076-0487-20	PLUG*20P	1
15	076-0368-20	PLUG*20P	2
16	331-0392-00	REAR PLATE	1
17	074-0850-06	OUTLET SOCKET*DIN	1
18	074-1013-00	OUTLET SOCKET*12P	1
19	345-3166-00	SPACER	1

NO	PART NO.	DESCRIPTION	QTY
20	039-0224-01	POWER PWB	1
21	331-0393-00	TR HOLDER	2
22	074-1069-01	OUTLET SOCKET*NS10P+6P	1
23	076-0477-22	PLUG*22P	2
24	074-0898-20	OUTLET SOCKET*20P	2
25	930-0736-01	TAPE-MECHANISM*GFN-1	1
26	039-0224-01	POWER PWB	1
27	076-0477-26	PLUG*26P	1
28	076-0391-32	PLUG*32P	1
29	074-1047-22	OUTLET SOCKET*22P	2
30	073-0731-00	TERMINAL	1
31	929-0040-04	CD-MECHANISM-MODULE	1
32	716-1494-00	IT SCREW	6
33	714-2604-81	MACHINE SCREW	14
34	286-7796-06 286-8153-01	SETPLATE(PN-2083D) (PP-2083I)	1
35	020-3017-00	FAN MOTOR	1
36	345-7577-00	SPACER	1
37	076-0277-02	PLUG*2P	1

■PARTS LIST:

◎Electrical section

●SWITCH P.W.B.

REF NO.	PART NO.	DESCRIPTION	QTY
D801	001-0412-18	LED GL-3EG8	1
L801	010-2199-28	COIL*22μH	1
IC801,802	051-1637-00	IC LC7574E	2
Q801-804	125-2004-01	TRANSISTOR RN1401	4
	125-2020-01	DTC143EK	
Q805,806	125-2031-02	TRANSISTOR MUN2211	2
	125-2004-02	RN1402	
	125-2005-01	UN2211	
	125-2020-02	DTC114EK	

REF NO.	PART NO.	DESCRIPTION	QTY
C802,803	176-4701-00	CHIP-C 47pF	2
C801,804,805	178-2232-05	CHIP-C 0.022μF	3
C806,807	178-4745-06	CHIP-C 0.47μF	2

●MAIN P.W.B.

REF NO.	PART NO.	DESCRIPTION	QTY
D505	001-0334-30	DIODE RL202	1
D301,302,502	001-0356-00	DIODE 1SS184	3
	001-0354-00	MA151WK	
	001-0506-00	DAN202K	
D517	001-0377-28	DIODE MA4051L	1
	001-0376-28	MTZJ5.1A	
D403	001-0377-38	DIODE MA4068M	1
	001-0376-39	MTZJ6.8C	
	001-0400-38	HZS6.8JB2	
D501	001-0377-40	DIODE MA4075L	1
	001-0376-41	MTZJ7.5B	
	001-0400-40	HZS7.5JB1	
D202	001-0377-44	DIODE MA4082M	1
	001-0376-45	MTZJ8.2C	
	001-0400-44	HZS8.2JB2	
D516	001-0377-47	DIODE MA4091M	1
	001-0376-48	MTZJ9.1C	
	001-0400-47	HZS9.1JB2	
D102,512	001-0377-48	DIODE MA4091H	2
	001-0376-49	MTZJ10A	
	001-0400-48	HZS9.1JB3	
D513	001-0377-69	DIODE MA4180M	1
	001-0376-70	MTZJ18C	
	001-0400-69	HZS18JB3	
D205	001-0421-38	DIODE MTZJ36	1
D506	001-0503-03	DIODE HZS3ALL	1
D710-712	001-0516-00	DIODE MA111	3
D203,204,206 207	001-0589-00	DIODE 1SS145	4
D510,511	001-0626-00	DIODE 1A2	2
	001-0466-00	S5688B	
D101,103,201 401,504,507 509,701-709	001-0638-00	DIODE WG713A	16
	001-0330-00	1SS119	
TH701	002-0214-05	THERMISTOR	1
T501	009-0470-02	CHOKE	1
T502	009-0621-01	CHOKE	1
L103-105,107 401,701	010-2330-24	COIL*22μH	6
L100	010-2003-03	COIL	1
VR102,103	012-4738-00	VARIABLE-R*100k	2
VR104	012-4738-07	VARIABLE-R*22k	1
R240,243-249	032-0106-15	CHIP-R 1/10W 100k±0.5%	8
C128	042-0397-00	CHIP-C 16V 1μF TAN	1
C201,202,239 240	042-0405-00	ELECTRO-C 16V 10μF	4
C131,132	042-0405-07	ELECTRO-C 50V 1μF	2
C332-339	042-0405-10	ELECTRO-C 10V 220μF	8
C527	042-0427-02	CHIP-C 16V 33μF TAN	1
C206,207 243-246	042-0471-01	ELECTRO-C 10V 10μF	6
C603-606	042-0473-00	ELECTRO-C 16V 10μF	4
C116	043-1600-33	CHIP-C 0.033μF	1
C133,138,139	043-1600-47	CHIP-C 0.047μF	3
C208	043-1600-68	CHIP-C 0.068μF	1

REF NO.	PART NO.	DESCRIPTION	QTY
C107,111,121 135,401,404 512,523,525 703	043-1601-10	CHIP-C 0.1μF	10
CCT417,420	050-0122-50	COMPONENT-CCT*10k	2
CCT714,724 729,733,740 744,746,747	050-0122-53	COMPONENT-CCT*1k	8
IC202	051-0350-55	IC NJM4558M	1
IC301-304	051-0556-01	IC NJM2058M	4
IC101	051-0599-51	IC NJM2903M	1
IC702	051-0869-55	IC NJM2103M	1
IC402	051-1014-10	IC TA7291S	1
IC201,205	051-1292-00	IC NJM4565M	2
IC305-308	051-1407-00	IC NJM4556L	4
IC204	051-1500-00	IC NJM2060M	1
IC102	051-1887-05	IC LC72191MHS	1
IC501	051-1905-00	IC AN77L05	1
IC701	052-3116-01	IC HD6433834A14FI	1
IC401	052-4004-00	IC μPD75006GB-643-3B4	1
X401	060-0130-50	CERA-RESONATOR*4.19MHz	1
X701	060-0319-00	CERA-RESONATOR*4.9152MHz	1
SUP102	060-0122-10	SURGE PROTECTOR	1
X101	061-1066-00	CRYSTAL*7.2MHz	1
Q201,302-305 514	100-1162-00	TRANSISTOR 2SA1162	6
	100-1037-00	2SA1037	
	101-0709-00	2SB709	
Q106,109	100-1298-00	TRANSISTOR 2SA1298	2
Q510	100-1359-00	TRANSISTOR 2SA1359	1
Q403,405	100-1431-00	TRANSISTOR 2SA1431	2
Q505,515	101-1073-00	TRANSISTOR 2SB1073	2
Q521,524	101-1188-00	TRANSISTOR 2SB1188	2
Q203,207-210	102-2712-00	TRANSISTOR 2SC2712	5
	102-2412-00	2SC2412	
	102-2812-00	2SC2812	
Q301,601,602	103-1306-00	TRANSISTOR 2SD1306	3
	103-1328-00	2SD1328	
Q507,517,523 526	103-1406-00	TRANSISTOR 2SD1406	4
Q501	103-1766-00	TRANSISTOR 2SD1766	1
Q518	103-1858-00	TRANSISTOR 2SD1858	1
Q105	108-0669-00	FET 2SK669	1
Q705,706,708	125-0006-00	TRANSISTOR UN2110	3
	125-0019-03	DTA144TK	
Q512,710	125-0013-07	TRANSISTOR RN2427	2
Q111,205,401 503,508,603	125-0024-02	TRANSISTOR MUN2111	6
	125-0001-01	UN2111	
	125-0002-02	RN2402	
	125-0014-02	DTA114EK	
Q702	125-0024-03	TRANSISTOR MUN2112	1
	125-0001-02	UN2112	
	125-0002-03	RN2403	
	125-0014-03	DTA124EK	
Q404,406	125-2004-06	TRANSISTOR RN1406	2
	125-2020-06	DTC143ZK	

REF NO.	PART NO.	DESCRIPTION	QTY
Q102-104,107 108,110,112 206,402,504 506,509,511 513,516,522 525,703,707 709,711	125-2031-02 125-2004-02 125-2005-01 125-2020-02	TRANSISTOR MUN2211 RN1402 UN2211 DTC114EK	21
Q204,502,704	125-2031-03 125-2004-03 125-2005-02 125-2020-03	TRANSISTOR MUN2212 RN1403 UN2212 DTC124EK	3
R511	114-1201-31	FILM-R 3W 12Ω	1
R416	114-2291-11	FILM-R 1W 2.2Ω	1
R514	114-3391-11	FILM-R 1W 3.3Ω	1
C316,317	172-1031-11	POLYESTOR-C 0.01μF	2
C513,521	172-1041-11	POLYESTOR-C 0.1μF	2
C302	172-1241-11	POLYESTOR-C 0.12μF	1
C310,313	172-1541-11	POLYESTOR-C 0.15μF	2
C303	172-2241-11	POLYESTOR-C 0.22μF	1
C311,312	172-2741-11	POLYESTOR-C 0.27μF	2
C308,309	172-4741-11	POLYESTOR-C 0.47μF	2
C103,237,238 241,242	176-1007-00	CHIP-C 10pF	5
C123,127,212 220,305	176-1011-00	CHIP-C 100pF	5
C136,137	176-1501-00	CHIP-C 15pF	2
C227,230	176-2201-00	CHIP-C 22pF	2
C203,204,231 232,323-330	176-5601-00	CHIP-C 56pF	12

REF NO.	PART NO.	DESCRIPTION	QTY
C130,249-251 301	178-1022-05	CHIP-C 1000pF	5
C118,601,602 704	178-1032-05	CHIP-C 0.01μF	4
C104,108-110 112,248,501 502,504-509	178-2232-05	CHIP-C 0.022μF	14
C314,315	178-2712-05	CHIP-C 270pF	2
C233,234	178-2722-05	CHIP-C 2700pF	2
C235,236	178-3322-05	CHIP-C 3300pF	2
C113,117,205	178-4722-05	CHIP-C 4700pF	3
C318,319	178-8222-05	CHIP-C 8200pF	2
C129,403	182-1073-32	ELECTRO-C 16V 100μF	2
C114,522	182-4763-22	ELECTRO-C 10V 47μF	2
C607	183-1043-62	ELECTRO-C 50V 0.1μF	1
C705	183-1053-62	ELECTRO-C 50V 1μF	1
C106,247,304 322,510,518	183-1063-32	ELECTRO-C 16V 10μF	6
C524,530	183-1073-22	ELECTRO-C 10V 100μF	2
C119	183-3363-22	ELECTRO-C 10V 33μF	1
C122,183,228 29,701,702	183-4753-52	ELECTRO-C 35V 4.7μF	6
C526,529,531	183-4763-32	ELECTRO-C 16V 47μF	3
C519,520	184-1083-32	ELECTRO-C 16V 1000μF	2
C331	184-2273-21	ELECTRO-C 10V 220μF	1
C528	184-3373-11	ELECTRO-C 6.3V 330μF	1
C503	184-3373-32	ELECTRO-C 16V 330μF	1
C514	184-4773-32	ELECTRO-C 16V 470μF	1

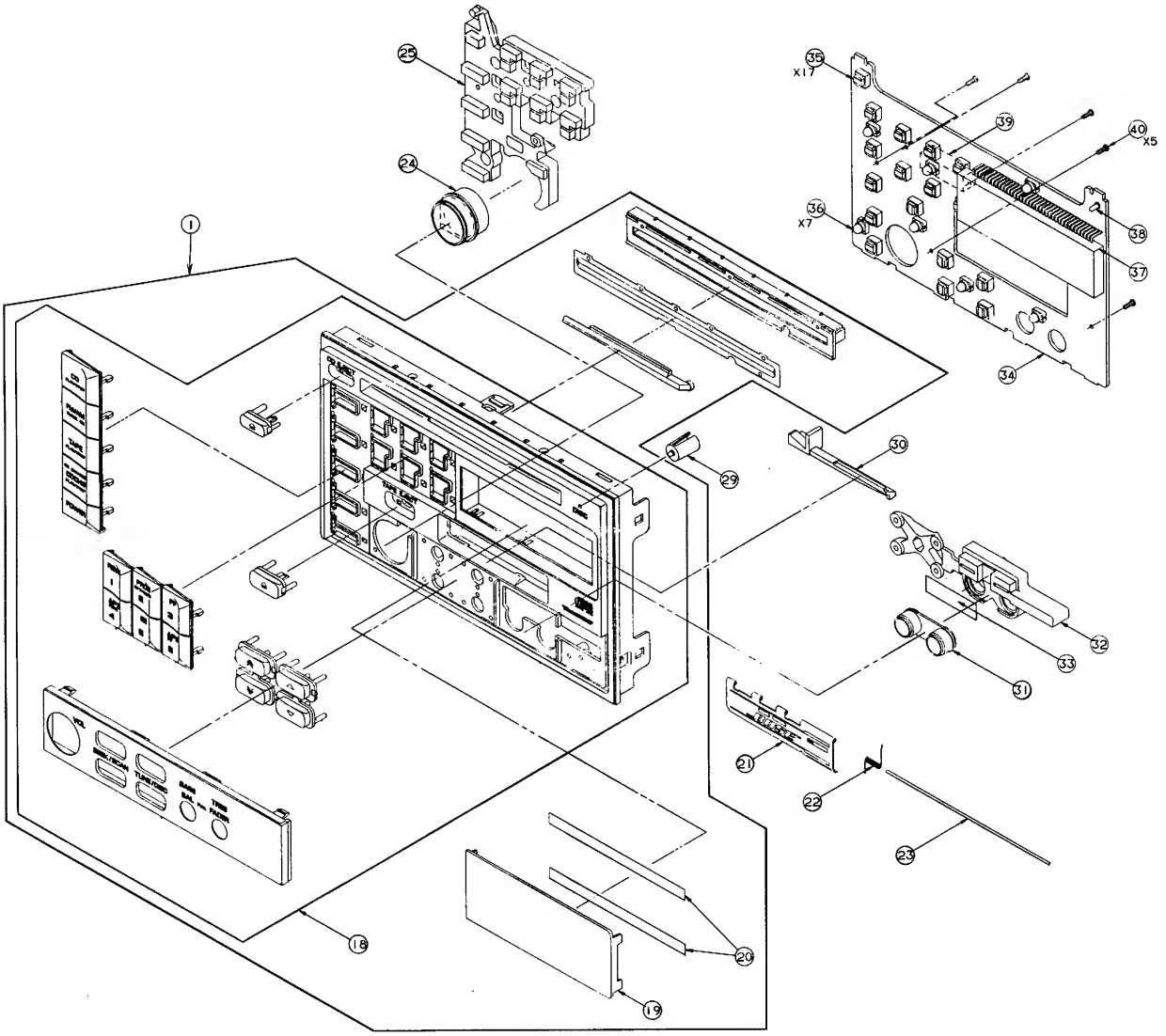
● GFN-1 TAPE MECH. 930-0736-01 SIDE P.W.B.

REF NO.	PART NO.	DESCRIPTION	QTY
VR1,2	012-4431-06	VARIABLE-R*10k	2
R13	032-0098-03	CHIP-R 1/10W 18k±2%	1
C12,13	043-1601-10	CHIP-C 0.1μF	2
IC1	051-1777-00	IC HA12163	1
C5,6	172-1231-11	POLYESTOR-C 0.012μF	2
C7,8	172-4731-11	POLYESTOR-C 0.047μF	2
C16	178-1032-05	CHIP-C 0.01μF	1

REF NO.	PART NO.	DESCRIPTION	QTY
C14	178-4722-05	CHIP-C 4700pF	1
C1-4,10,11	178-5612-05	CHIP-C 560pF	6
C17	183-1043-61	ELECTRO-C 50V 0.1μF	1
C9	183-1053-61	ELECTRO-C 50V 1μF	1
C15	183-2263-31	ELECTRO-C 16V 22μF	1
C18	183-4753-51	ELECTRO-C 35V 4.7μF	1

■EXPLODED VIEW • PARTS LIST:

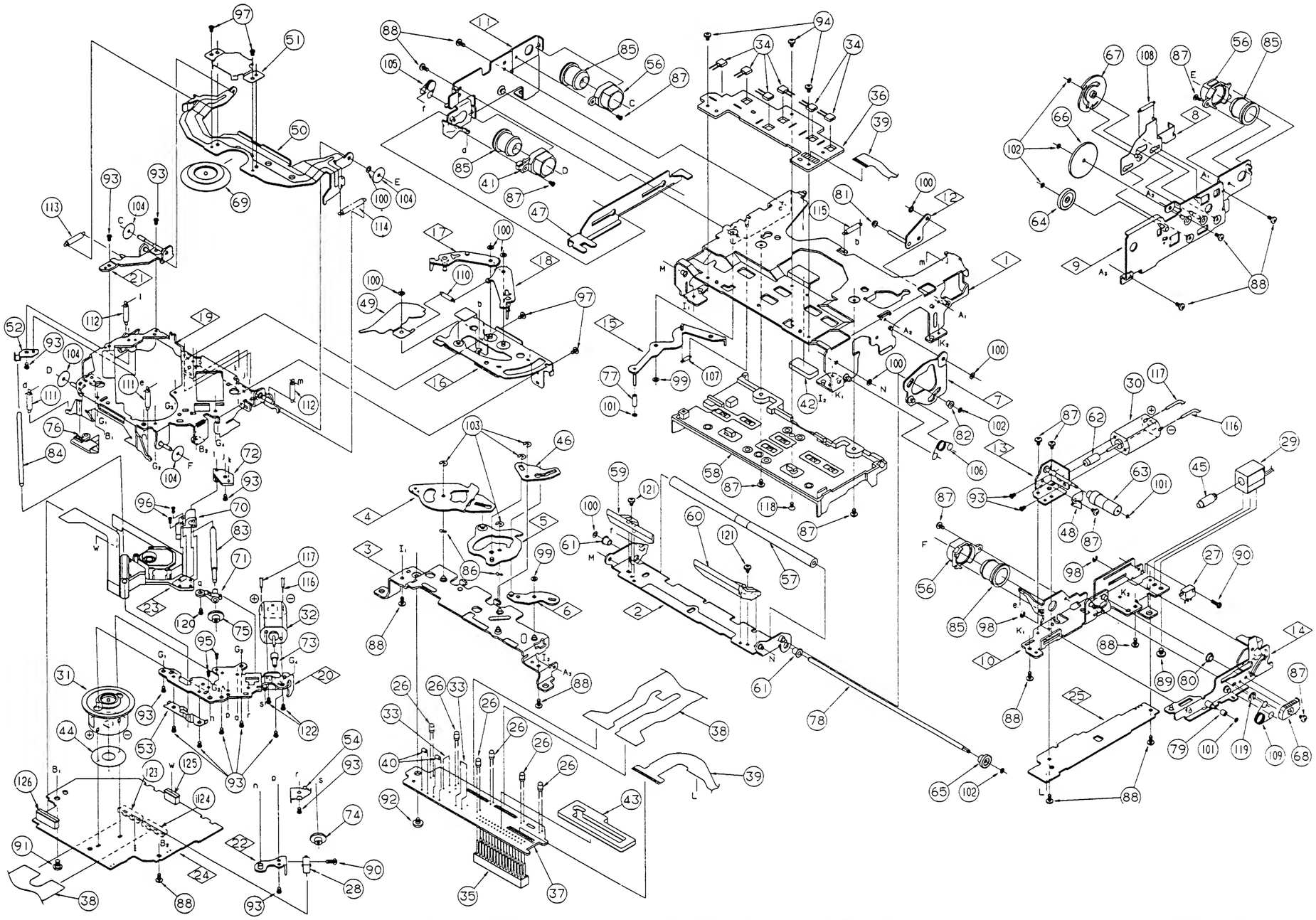
◎Escutcheon section



NO	PART NO.	DESCRIPTION	QTY
1	940-1655A	ESCUTCHEON-ASSY	1
18	940-7637-01	SUB ESCUT-ASSY	1
19	373-0751-00	DIAL-CVR	1
20	347-3551-00	DOUBLE FACE	2
21	320-0512-00 320-0512-01	DUSTPROOF-CVR(PN-2083D) (PP-2083I)	1
22	750-2626-00	SPRING	1
23	341-1565-00	DOOR SHAFT	1
24	335-4638-00	ILLUMI RING	1
25	335-4700-00	ILLUMI PLATE	1
29	335-4623-00	INDICATOR LENS	1
30	335-4703-00	ILLUMI BAR	1

NO	PART NO.	DESCRIPTION	QTY
31	335-4639-00	ILLUMI RING	1
32	335-4701-00	ILLUMI PLATE	1
33	347-3984-00	ILLUMI PAPER	1
34	039-0225-01	SWITCH PWB	1
35	013-6300-00	SWITCH	17
36	017-0433-00 017-0433-01	PILOTLAMP(PN-2083D) (PP-2083I)	7
37	379-0418-10	INDICATOR	1
38	001-0412-18	LED*DISK IND	1
39	074-1047-26	OUTLET SOCKET*26P	1
40	716-0872-00	PAD SCREW	5

■EXPLODED VIEW • PARTS LIST: ◎CD mechanism module section 929-0040-04



NO	PART NO.	DESCRIPTION	QTY
1	966-0129-05	CHASSIS-ASSY	1
2	966-0130-03	LWR-DISC-G-ASSY	1
3	966-0131-05	F-L--CHAS-ASSY	1
4	966-0132-02	F-LOCK-L-P-ASSY	1
5	966-0133-02	F-L-PLT-R-ASSY	1
6	966-0134-01	LC-LNK-A-ASSY	1
7	966-0135-00	POWER LINK-ASSY	1
8	966-0136-01	TRIG-PLT-ASSY	1
9	966-0137-03	GEAR PLATE-ASSY	1
10	966-0138-05	SFT-P-CHAS-ASSY	1
11	966-0139-05	DMP-BRKT-N-ASSY	1
12	966-0140-00	CLP-LIFT-L-ASSY	1
13	966-0141-02	MOTOR-BRKT-ASSY	1

NO	PART NO.	DESCRIPTION	QTY
14	966-0142-05	SHIFT-PLT-ASSY	1
15	966-0143-04	SENSOR-L-ASSY	1
16	966-0144-03	STAGE-P-ASSY	1
17	966-0145-02	STOP-A-L-ASSY	1
18	966-0146-03	STOP-A-R-ASSY	1
19	966-0303-00	DRIVE-PLT-ASSY	1
20	966-0182-02	DR-MO-BRKT-ASSY	1
21	966-0304-00	SIDE PLATE-ASSY	1
22	966-0150-02	SW-PLATE-ASSY	1
23	969-0002-01	PICK UP U-ASSY	1
24	039-0080-00	FLOAT PWB	1
25	099-9911-01	MECH PWB	1
26	001-0563-00	DIODE*GL380	6
27	013-3808-10	SWITCH	1

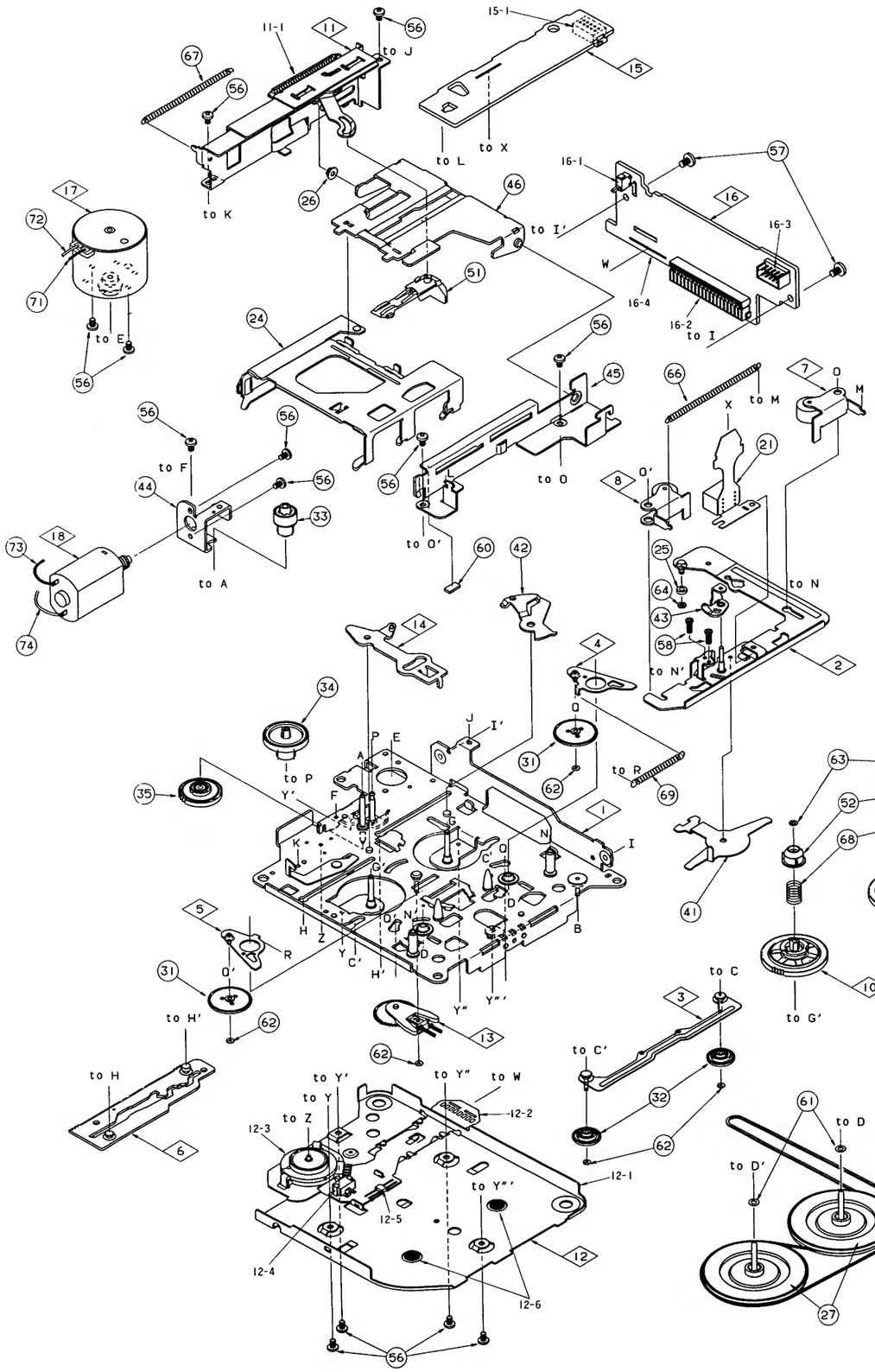
NO	PART NO.	DESCRIPTION	QTY
28	013-3808-11	SWITCH	1
29	960-4328-00	PLUNGER-ASSY	1
30	020-1501-00	DC-MOTOR	1
31	020-1509-00	DC-MOTOR*SPINDLE	1
32	020-1508-00	DC-MOTOR*SLED	1
33	060-0054-00	JUMPER WIRE	2
34	060-0252-01	PHOTO TR*PT4850F	6
35	074-0921-32	OUTLET SOCKET*32P	1
36	039-0009-00	SENSOR PWB	1
37	039-0006-00	LED-PWB	1
38	099-9343-00	FLEX PWB	1
39	039-0010-00	FLEX PWB	1
40	111-3011-93	FILM-R*300Ω	2
41	621-0201-02	DMP-HOLDER B-DL	1

NO	PART NO.	DESCRIPTION	QTY
42	345-6962-00	CLAMP-S-SHEET	1
43	345-6963-00	CN-SPACER	1
44	345-5112-00	MOTOR SHEET S	1
45	632-2047-00	CORE	1
46	620-0181-00	LOCK LINK B	1
47	620-0187-99	LOCK-L-PLATE	1
48	620-0190-00	MOTOR-BRKT-P-SP	1
49	620-0196-00	LOCK PLATE	1
50	620-0329-00	CLAMPER LINK	1
51	620-0198-03	CLAMPER PLATE	1
52	620-0202-00	HOLD PLATE	1
53	620-0328-00	SLID-S-PLATE	1
54	620-0204-03	SP-PLATE A	1
56	621-0200-02	DMP-HOLDER A-DL	3

NO	PART NO.	DESCRIPTION	QTY
57	621-0160-00	LOADING ROLLER	1
58	621-0111-03	U-DISC GUIDE	1
59	621-0112-01	SHUTTER L	1
60	621-0113-01	SHUTTER-R	1
61	621-0114-02	ROLLER SLEEVE	2
62	621-0115-01	WORM GEAR	1
63	621-0116-01	GEAR A	1
64	621-0117-01	GEAR B	1
65	621-0118-02	ROLLER GEAR	1
66	621-0119-01	GEAR C	1
67	621-0120-01	GEAR D	1
68	621-0121-00	RACK	1
69	621-0205-01	CLAMPER RING	1
70	621-0123-01	SCREW HOLDER	1
71	621-0168-01	LS-HOLDER A	1
72	621-0169-01	LS-HOLDER B	1
73	621-0170-01	DR-GEAR A	1
74	621-0171-01	DR-GEAR B	1
75	621-0172-01	DR-GEAR C	1
76	621-0173-00	FPC GUIDE	1
77	621-0159-00	S-LINK ROLLER	1
78	622-0744-01	ROLLER SHAFT	1
79	622-0745-00	PWR-LNK-ACT-ROL	1
80	622-0746-01	SFT-PLT-G-ROLR	1
81	622-0747-00	CLP-LIFT-ROLR	1
82	622-0748-00	LW-G-PLT-G-ROLR	1
83	624-0012-01	LEAD SCREW	1
84	624-0003-01	SLIDE SHAFT	1
85	629-0047-01	DAMPER-DL	4
86	684-0072-00	PLATE SPRING	2
87	714-2003-81	MACHINE SCREW*M2x3	10
88	714-2004-81	MACHINE SCREW*M2x4	12
89	714-2603-81	MACHINE SCREW*M2.6x3	1
90	716-0791-00	SCREW*M2x5.7	2
91	716-1445-01	PWB-SCREW	1
92	716-1462-01	LED-PWB-SCREW	1
93	716-1468-00	SCREW*M2x2.5	14
94	716-1507-00	SCREW	3
95	739-1725-17	PRECISION SCREW	2
96	739-1730-17	PRECISION SCREW*M1·7x3	2
97	739-2020-17	PRECISION SCREW*M2.0x2	4
98	743-1500-10	E-RING*1.5	2
99	746-0622-01	WASHER	2
100	746-0624-01	WASHER	8
101	746-0724-00	WASHER	3
102	746-0761-00	WASHER	4
103	743-2000-10	E-RING	4
104	746-0846-00	WASHER	4
105	750-2875-01	RO-TO-SP-L	1
106	750-2876-02	RO-TO-SP-R	1
107	750-2877-01	SEN-LINK-SP	1
108	750-2878-00	TRG-PLT-SP	1
109	750-2879-01	SFT-PLT-TO-SP	1
110	750-2880-00	LOCK-P-SP	1
111	750-2881-01	DAMPER SP-F	2
112	750-2882-00	DUMPER-SP-R	2
113	750-2883-01	CLP-SP-L	1
114	750-3055-00	CLP-SP-R	1
115	750-2885-00	CENTER-SP	1
116	800-4904-60	VINYL-COAT-WIRE*BLACK	2
117	802-4904-60	VINYL-COAT-WIRE*RED	2
118	716-1488-00	SCREW	1
119	744-0037-00	E-RING	1
120	716-1524-00	SCREW*M2x2.5	1
121	716-1535-00	SCREW	2
122	739-2025-15	PRECISION SCREW	2
123	074-0923-13	OUTLET SOCKET*13P	1
124	074-0923-11	OUTLET SOCKET*11P	1
125	074-0924-05	OUTLET SOCKET*5P	1
126	074-0924-13	OUTLET SOCKET*13P	1

■EXPLODED VIEW • PARTS LIST:

◎Tape mechanism section 930-0736-01 (GFN-1)

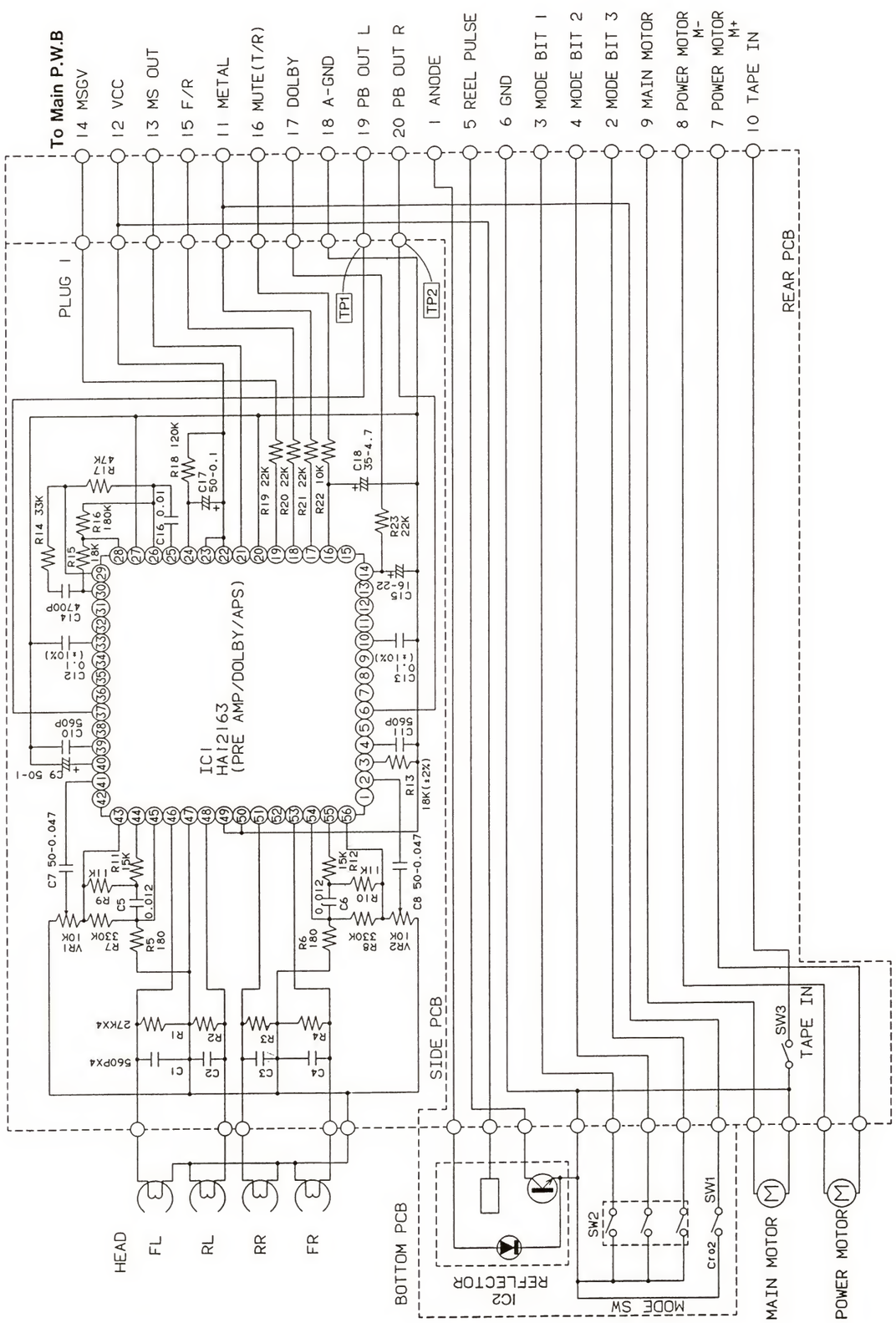


NO.	PART NO.	DESCRIPTION	QTY
1	960-4294-07	Deck plate assy	1
2	960-4261-03	Head plate assy	1
3	960-4262-03	FF-REW-P-assy	1
4	960-4263-01	Idler-P-assy F	1
5	960-4264-01	Idler-P-assy R	1
6	960-4266-04	Mode plate assy	1
7	960-4269-04	Roller assy F	1
8	960-4270-04	Roller assy R	1
9	960-4348-01	Reel assy F	1
10	960-4349-01	Reel assy R	1
11	960-4298-02	Eject sub assy	1
11-1	750-2948-00	SW plate assy	1
12	960-4338-00	Bottom sub assy	1
12-1	960-4295-02	Bottom-P-assy	1
12-2	099-9926-01	Flex PWB	1
12-3	013-3951-00	Switch (MODE)	1
12-4	013-3953-00	Switch (CrO2)	1
12-5	051-1776-00	IC (NJL5801K)	1
12-6	746-0767-00	Washer	2
13	960-4282-03	Detect sub assy	1
14	960-4301-02	Play-L-assy GF	1
15	099-9927-00	Side PWB	1
15-1	074-0898-10	Outlet socket	1
16	990-0696-00	Rear PWB assy	1
16-1	013-3906-00	Switch	1
16-2	074-1028-20	Outlet socket	1
16-3	076-0368-10	Plug	1
16-4	099-9928-01	PWB	1
17	SMA-130-100	DC motor(MAIN)	1
18	SMA-131-100	DC motor(POWER)	1
21	011-0307-33	Head	1
22	602-0118-00	Belt	1
23	604-0040-20	Tension pulley	1

NO.	PART NO.	DESCRIPTION	QTY
24	606-0101-04	Pack guide	1
25	610-0342-01	Head-P-roller	1
26	610-0343-00	Guide-A-roller	1
27	611-0091-02	Flywheel	2
31	613-0285-01	Idler gear	2
32	613-0286-02	FF/REW gear	2
33	613-0288-01	Herical gear	1
34	613-0289-01	Gear A	1
35	613-0290-00	Power gear	1
41	630-2597-01	Change link	1
42	630-2598-04	Eject link	1
43	630-2600-01	Adjust link	1
44	630-2601-02	Motor plate	1
45	630-2626-01	PWB frame	1
46	630-2605-01	Guide arm	1
51	631-1992-01	Pack stopper	1
52	631-1993-01	Slide bush	2
56	716-0484-00	Screw(M2×2.25)	13
57	716-1648-00	Screw(M2.6×6)	2
58	716-0833-10	Azimuth screw	2
60	746-0861-00	Pack set washer	1
61	746-0624-00	Washer	2
62	746-0724-00	Washer	6
63	746-0761-00	Washer	2
64	746-0762-00	Washer	1
66	750-2946-02	Pinch spring	1
67	750-2947-01	Eject-P-spring	1
68	750-2949-00	Slide spring	2
69	750-3017-01	Idler-P-spring	1
71	800-4910-60	Wire(BLK)	1
72	802-4911-60	Wire(RED)	1
73	806-4914-60	Wire(BLU)	1
74	809-4914-60	Wire(WHT)	1

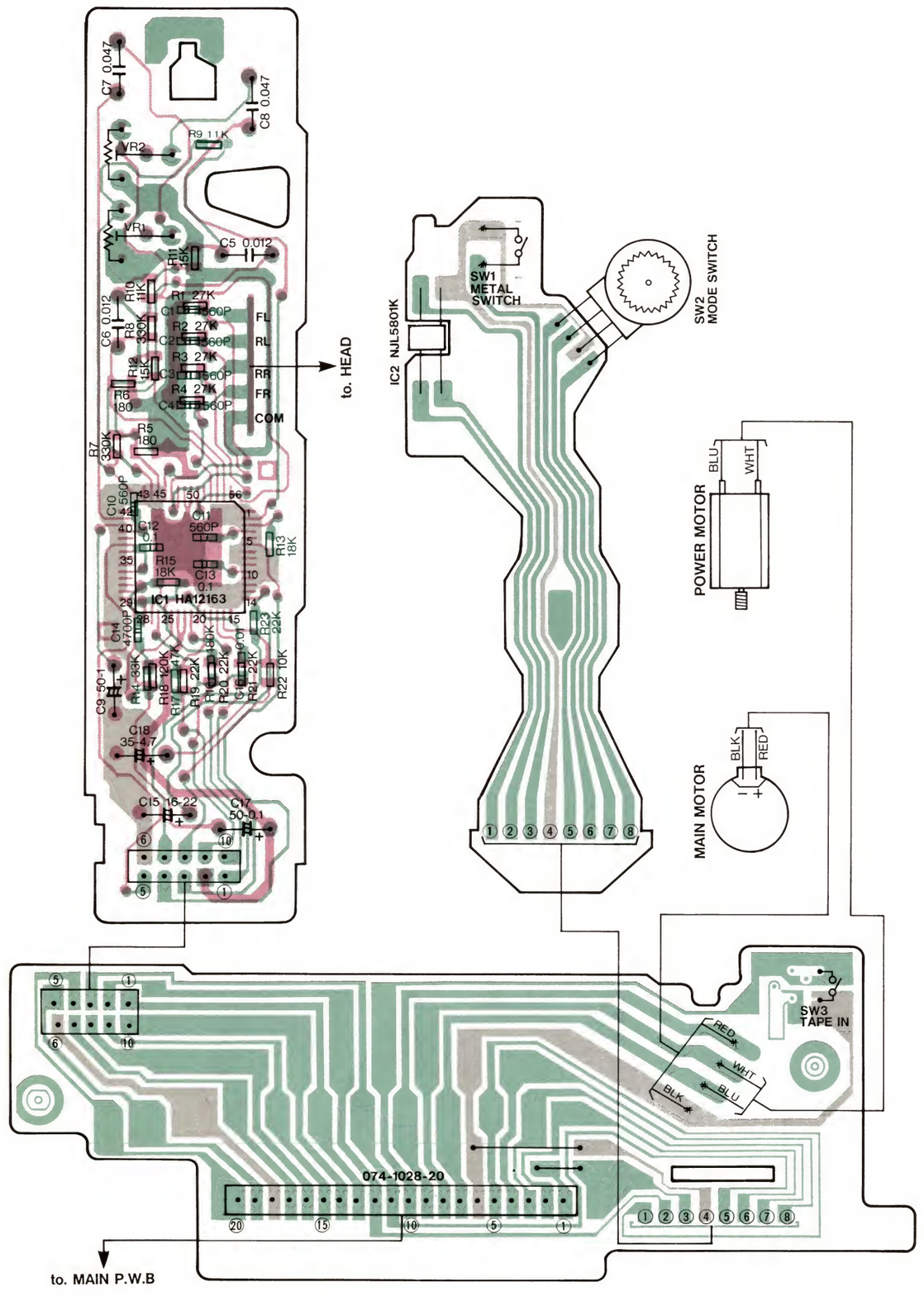
■CIRCUIT DIAGRAM:

◎Tape mechanism P.W.B.



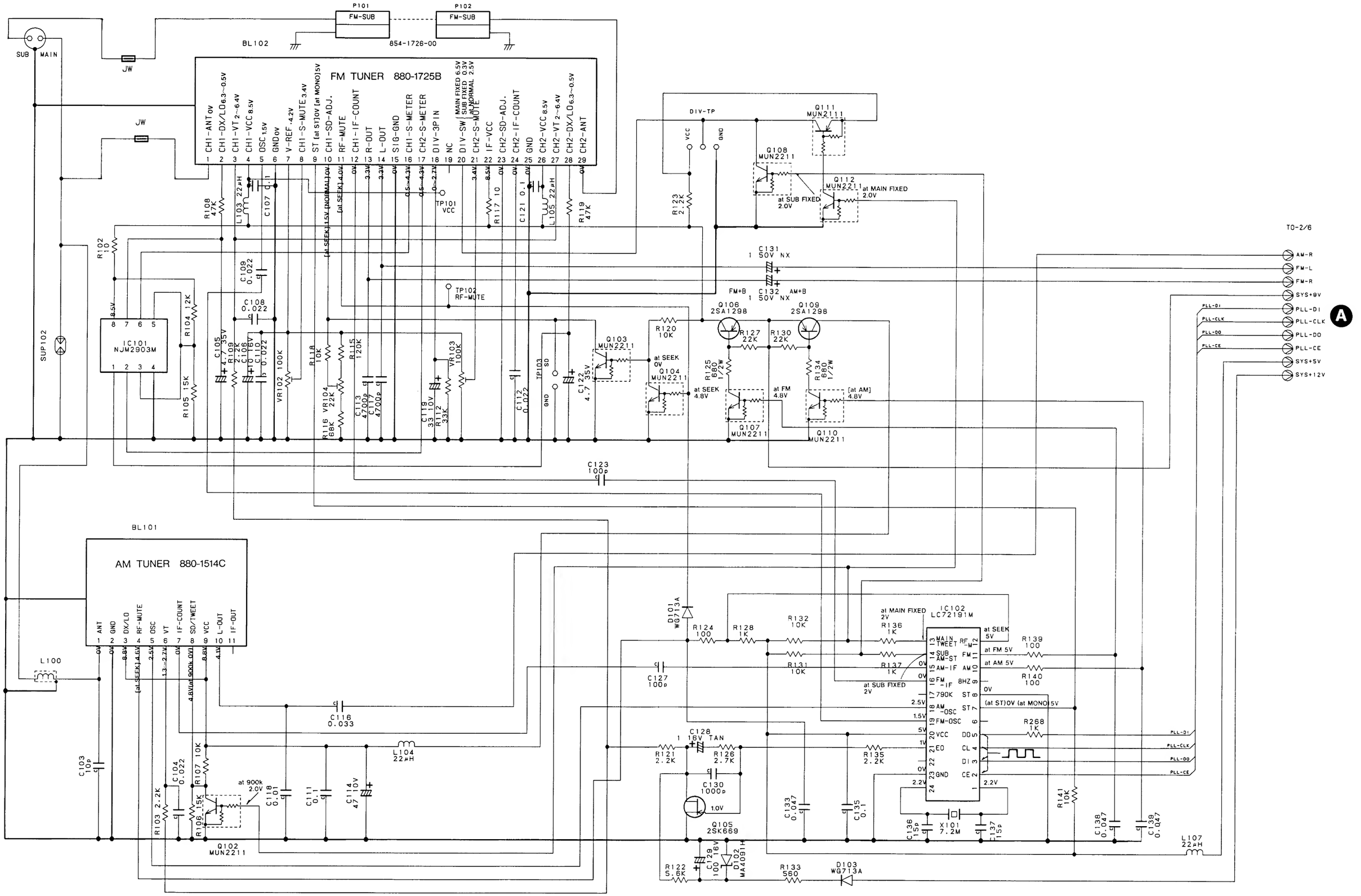
■PRINTED WIRING BOARD:

◎Tape mechanism P.W.B.



■CIRCUIT DIAGRAM: 1/6

◎MAIN P.W.B.



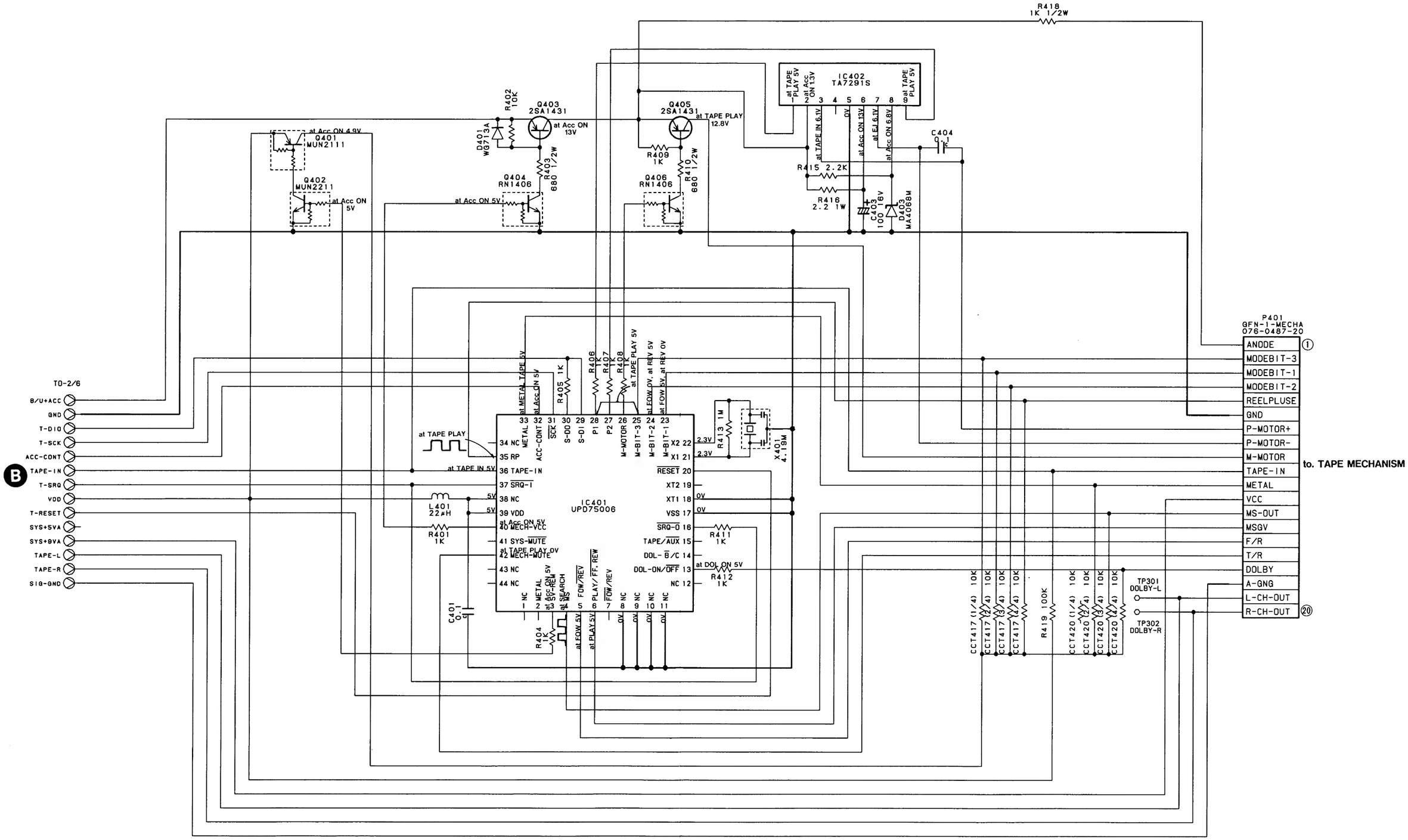
■CIRCUIT DIAGRAM: 2/6

©MAIN P.W.B.

J202 CD-CHANGER (A12)	
A	Lch INPUT (+)
B	Rch INPUT (+)
C	COMBI→CD (TXD)
D	COMBI-ON SIGNAL OUTPUT
E	Lch INPUT (−)
F	Rch INPUT (−)
G	GND
H	GND
I	
J	SLAVE-IC REQUEST
K	CD→COMBI (RXD)
L	AUX-ON SIGNAL INPUT

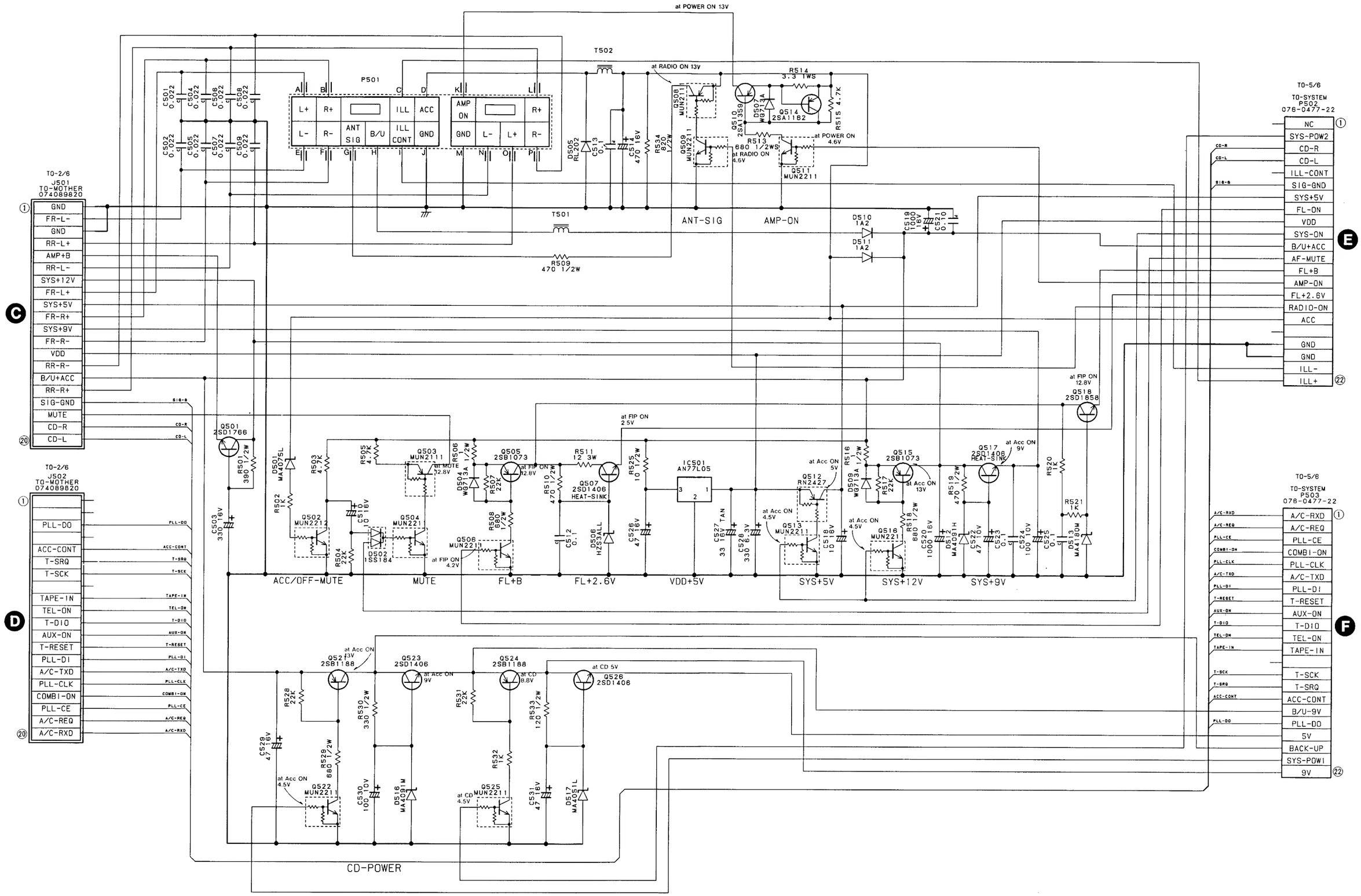
■CIRCUIT DIAGRAM: 3/6

◎MAIN P.W.B.



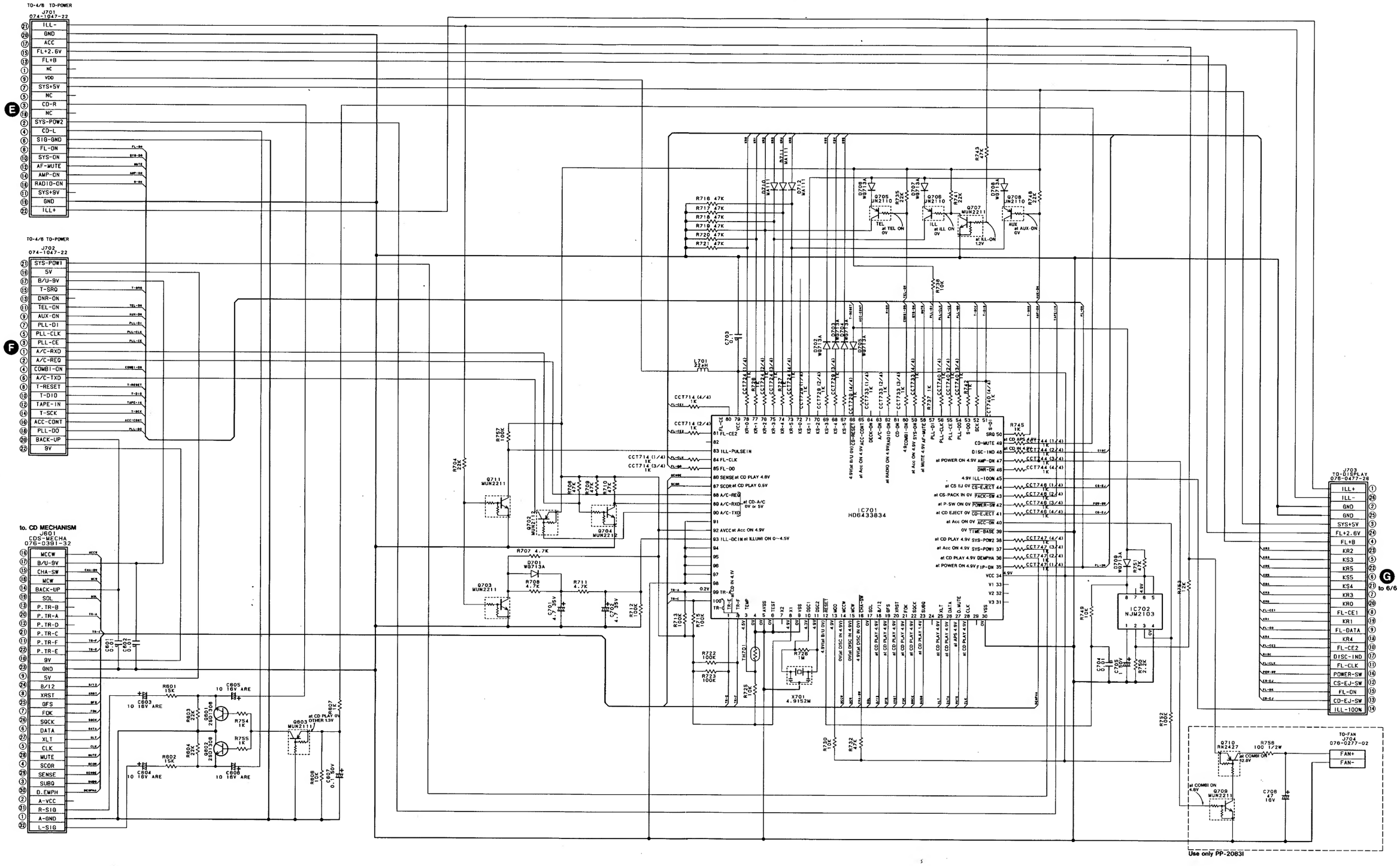
■CIRCUIT DIAGRAM: 4/6

◎MAIN P.W.B.



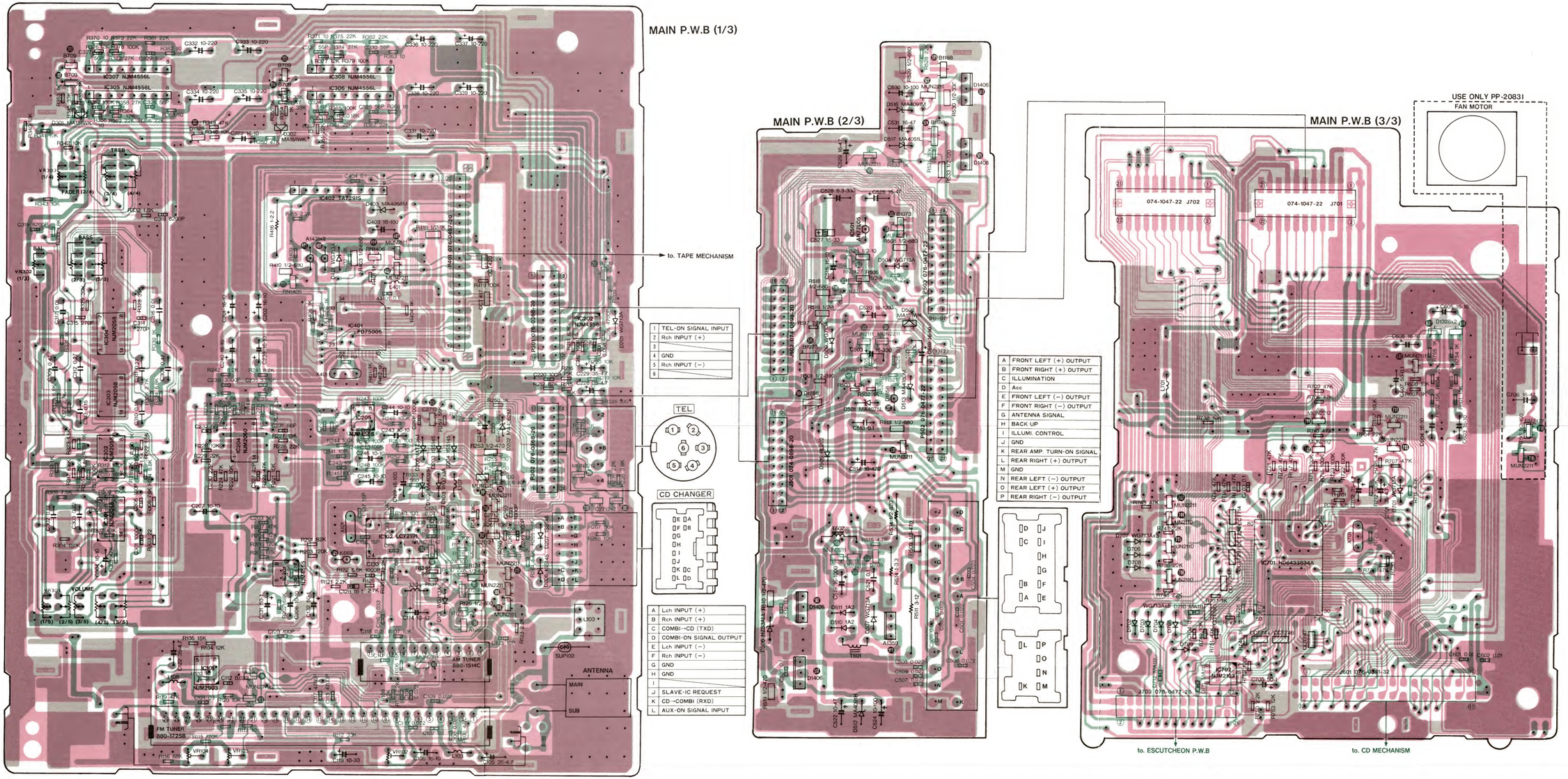
■CIRCUIT DIAGRAM: 5/6

◎MAIN P.W.B.



■PRINTED WIRING BOARD:

◎MAIN P.W.B.

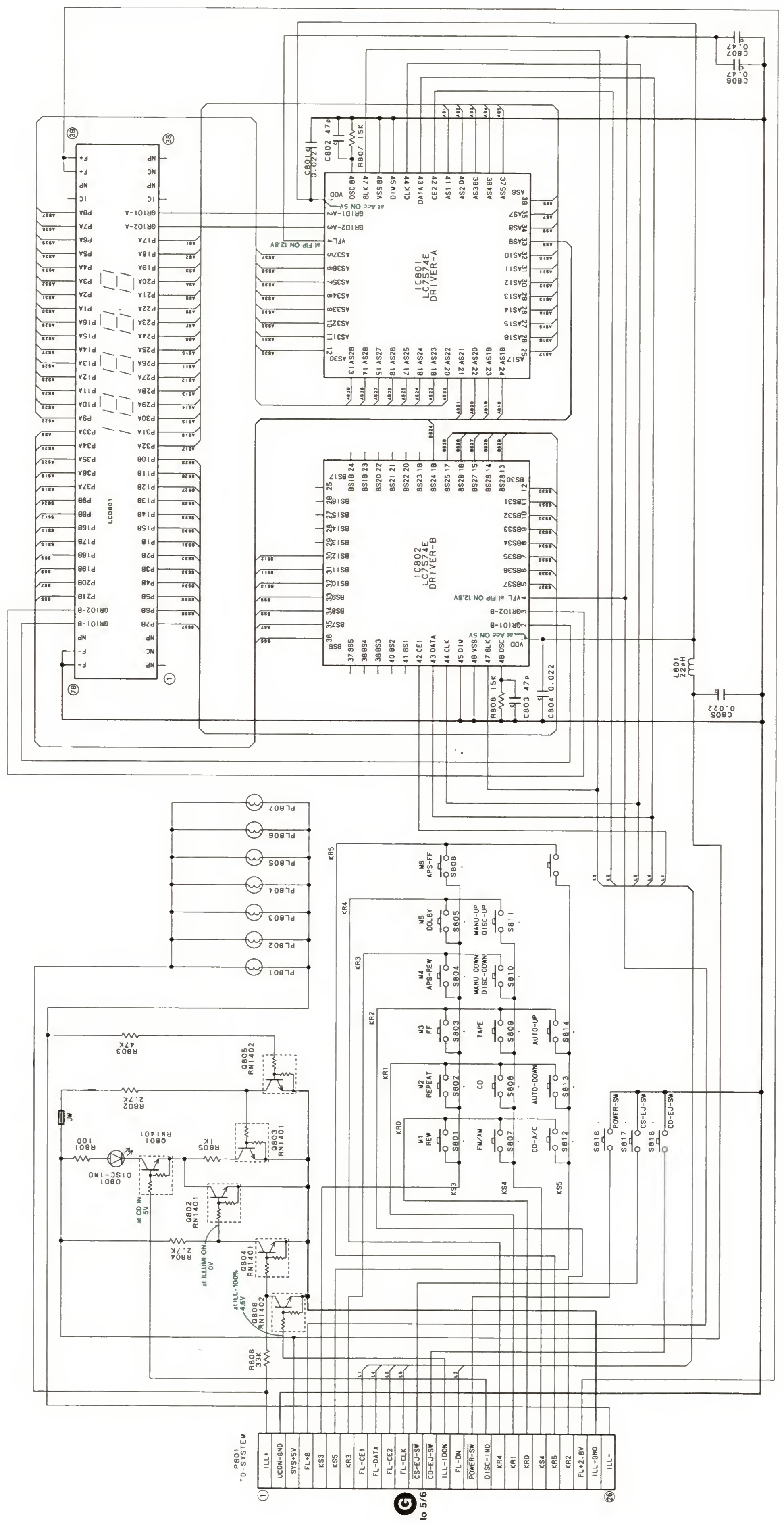


A B C D E

■CIRCUIT DIAGRAM: 6/6

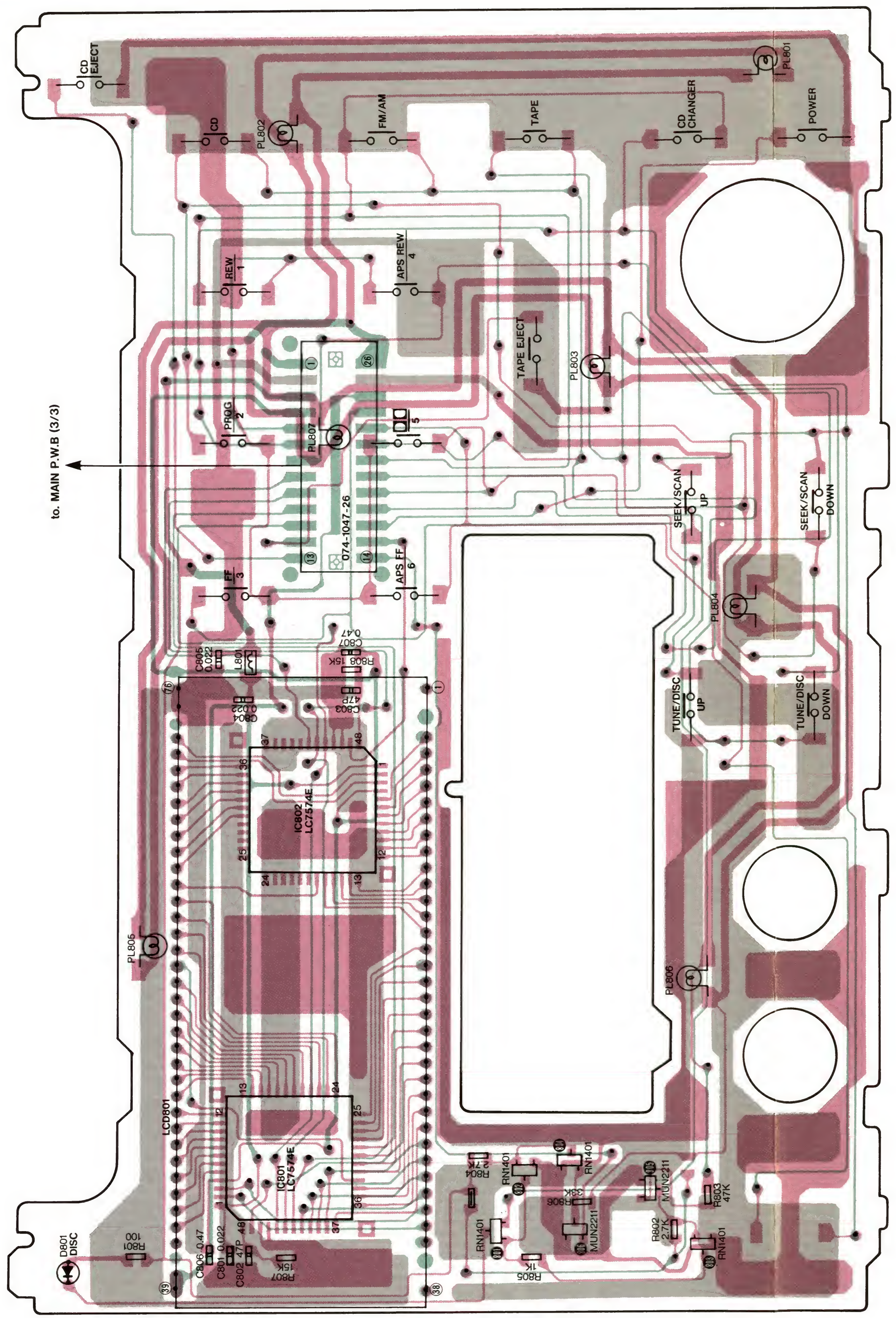
◎Escutcheon P.W.B.

1 2 3 4 5 6 7



■PRINTED WIRING BOARD:

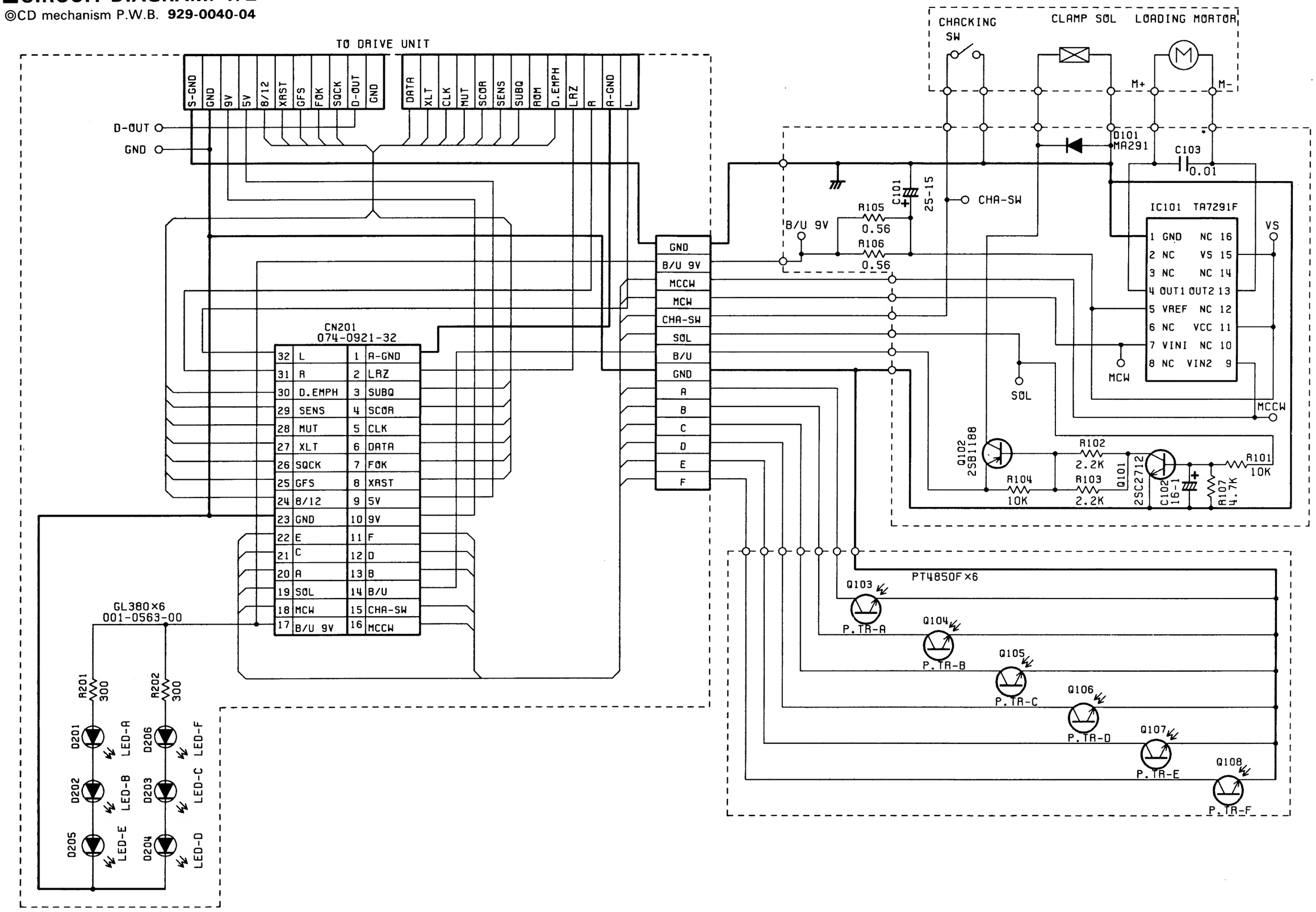
◎Escutcheon P.W.B.



PN-2083D,PP-2083I

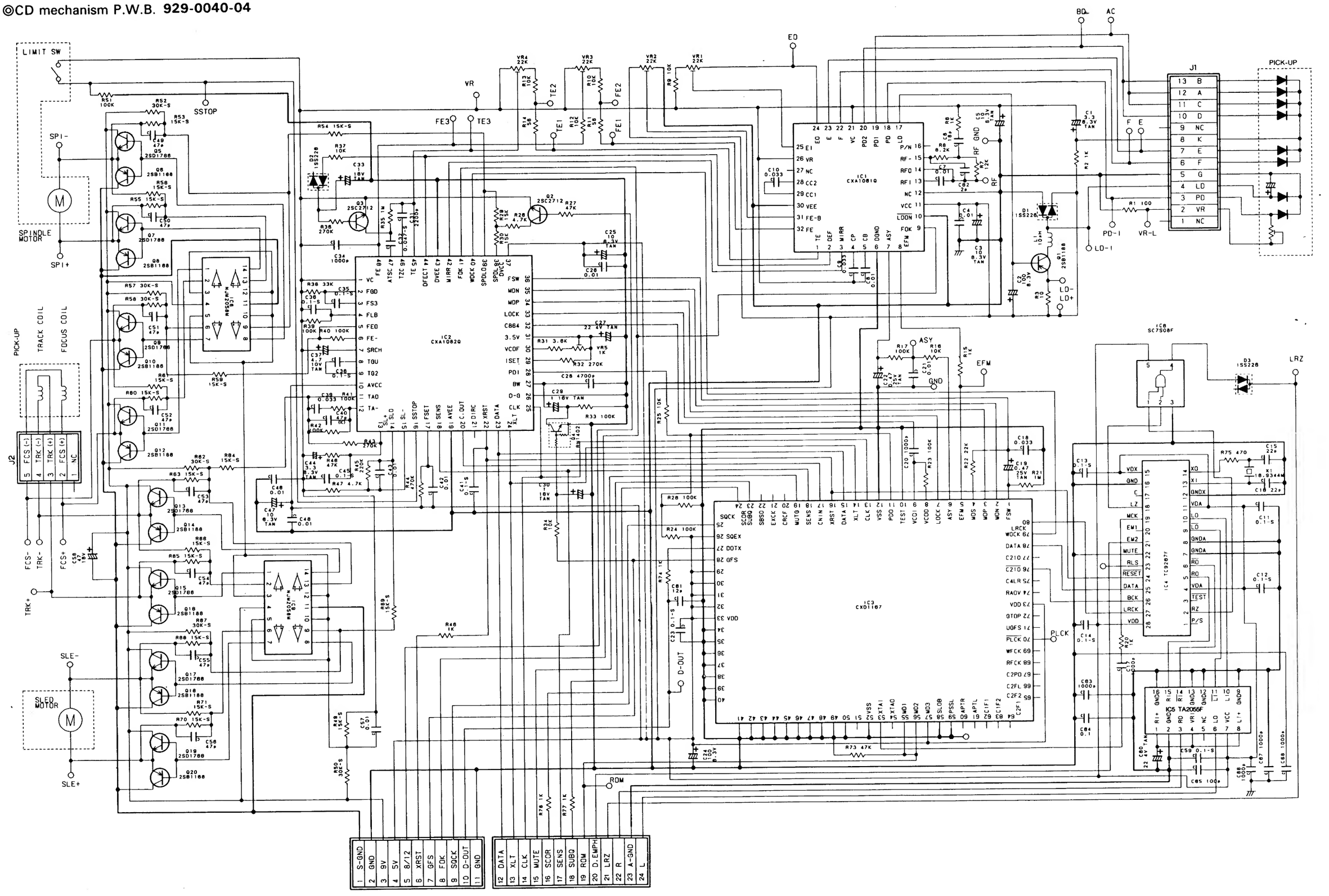
■CIRCUIT DIAGRAM: 1/2

©CD mechanism P.W.B. **929-0040-04**



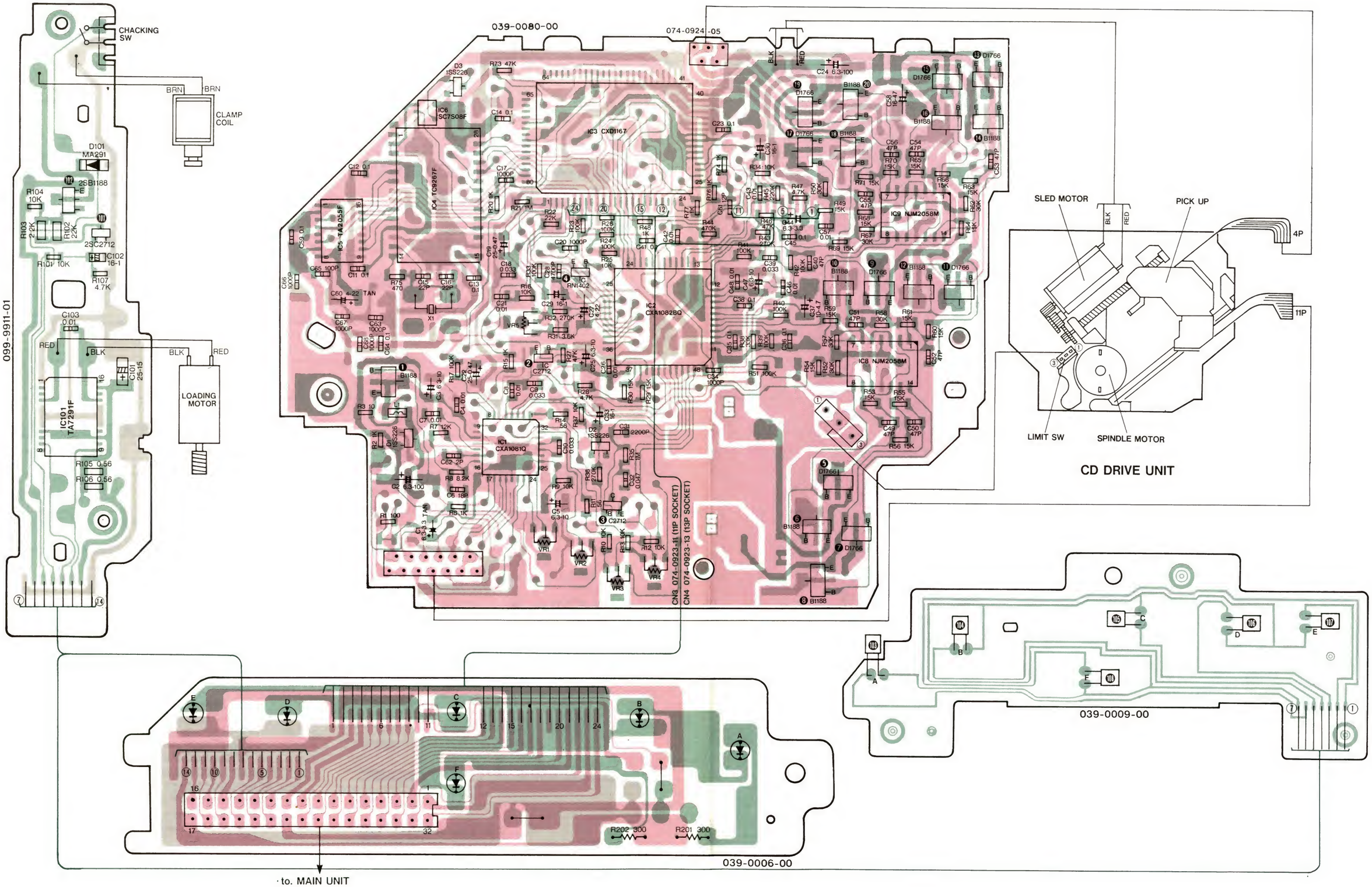
■CIRCUIT DIAGRAM: 2/2

◎CD mechanism P.W.B. **929-0040-04**



■PRINTED WIRING BOARD:

©CD mechanism P.W.B. **929-0040-04**



MEMO

Printed in Japan 298-5062-00 FEB. 1994